THE
RAILWAY GAZETTE
A Journal of Management, Engineering and Operation
INCORPORATING
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CONTENTS

	PAGE
Editorials	1
Publications Received	4
The Scrap Heap	5
Overseas Railway Affairs	6
Signalling Arrangements for Emergency Bogie Bridge	8
An Interesting Locomotive Conversion on the L.N.E.R.	10
San Francisco River Bridge Construction, Argentine State Railways	10
Narrow-Gauge Sections of the N.W.R., India	12
Railway News Section	15
Personal	15
Transport Services and the War	17
Stock Market and Table	24

DIESEL RAILWAY TRACTION SUPPLEMENT

The July issue of THE RAILWAY GAZETTE *Supplement, illustrating and describing developments in Diesel Railway Traction, is now ready, price* 1s.

GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

NOTICE TO SUBSCRIBERS

Consequent on further paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list which will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and facilities for such dispatch.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

REDUCTION IN SIZE OF PAGE

To economise in paper our readers will observe a slight reduction in the size of THE RAILWAY GAZETTE *in that the size of the page has been reduced from 9 in. × 12 in. to 8¼ in. × 11½ in. The type area of the page remains the same, namely, 7 in. × 10 in., but the surrounding margins have been reduced. This of course detracts from the appearance of the paper, but is one of the exigencies of the war*

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:
Mondays to Fridays 9.30 a.m. till 5.30 p.m.
The office is closed on Saturdays

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

An Ill-Informed Criticism

AN example of readiness to give prominence to criticism of the railways was provided recently by some of the national press. On June 25, a surprising proportion of the restricted reading matter of three national dailies was devoted to the giving of publicity to the fact that at Radcliffe in Lancashire, a few feet from a notice asking "Is your journey really necessary?" in the L.M.S.R Central Station, there was another notice headed "Radcliffe Holidays, July 4," and giving details of excursion tickets. A special train to Blackpool was also advertised. It was stated that the Mayor and Town Clerk had protested to the Ministry of War Transport that the arrangements made by the railway would do much to upset arrangements which had been made for holidays at home. The L.M.S.R. issued a denial that by running special trains in Lancashire to carry passengers to holiday resorts it was flouting the Government's policy of holidays at home, and pointed out that the passenger fares in operation including those for day excursions covering distances up to 60 miles for Wake and like holidays, were in accordance with the Government policy. In no case had the company made arrangements to carry passengers under this plan which would interfere with the conveyance of essential traffic. The railways are authorised this summer to run a limited number of trains of this kind, to such extent as will not impede freight or any essential services. In any event because of the control exercised over the railways by the Government, the Ministry of War Transport has knowledge of trains that are run. The incident, although local in its effect, was increased in importance by the adverse publicity the railways received in newspapers with a national circulation.

Guidance for Holiday Makers

The attention which was attracted to Radcliffe and its trains was sufficiently great to stimulate the Ministry of War Transport into issuing an announcement. Presumably that statement, which was broadcast and also published in the national press, was intended to afford "guidance" as to holiday trains and travel. It pointed out that although the railways were too busy with war work to carry the usual holiday traffic, they were providing certain facilities during the summer-holiday period which could be run without impeding freight and other essential services. Where workers' journeys were confined to short distances, and where families had not been visited for considerable periods, some facilities were to be provided for travel if local traffic conditions permitted. Because of the shortage of engines, staff, and fuel, these facilities would necessarily be limited, even in most favourable circumstances, and all who could find reasonable means of rest and recreation near their homes and places of work were urged to do so. The guiding rules for holiday makers this year should be: avoiding travel by train where possible, especially on long-distance journeys; to support local amusements; confine travel to easily accessible places; and better still, to cycle or walk. It was added that within a few months Great Britain would be at the peak of her war production and that, coupled with the shorter hours of daylight, would probably mean that even the present restricted passenger facilities would be cut further, either generally or in particular districts.

Hindering the War Effort

For a spirit of preparedness and for the remarkable enthusiasm which permeates the country's Civil Defence Services there can be nothing but praise, but it may reasonably be questioned whether sometimes that enthusiasm does not tend to defeat its own object. A case in point is the tendency to hold gas tests at busy London main-line termini during the evening rush hour, with resultant discomfort and inconvenience to large bodies of travellers, practically all of whom are engaged in work of national importance, and who at the close of a day's work are little inclined to take part in the donning and doffing of respirators. It can hardly be considered that these exercises serve any useful purpose, but there is a very real danger that they might inculcate feelings of annoyance, and if repeated often enough, of war-weariness. From the railway point of view, it is obviously undesirable that the congestion inevitable at rush hours should have added to it a further complication, or that the tasks, already heavy, of railway personnel, should be made greater. It seems to be one of those matters on which our bureaucracy might do well to think again.

Discouraging Travel

A parallel to the national press advertisements of the British main-line railway companies designed to discourage unnecessary travel, is provided by the regular advertisements in the provincial

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newspapers of the large motorbus companies. A new series was launched recently by the Birmingham & Midland Motor Omnibus Co. Ltd. and is distinguished by the fact that every announcement begins with the words "By Order of the Ministry of War Transport." One of these statements says that the company will be allowed to operate all through this summer only its ordinary winter services without the usual seasonal increases; points out that already the company is leaving hundreds of passengers behind on fine evenings on many of its popular routes; and adds that it will not be possible to run numerous duplicate buses nor to guarantee that passengers get home if they go out into the country. A further announcement says that the Midland "Red" buses and coaches will not be permitted to run any express services to the seaside this summer, nor to maintain day, half-day, and evening tours, or land cruises. Furthermore, no buses or coaches will be available for private parties or special outings at any time during the summer.

L.M.S.R. Mobile Salvage Exhibition

The L.M.S.R. has organised a mobile salvage exhibition in a thirty-four year old railway coach, which itself was scheduled for breaking up after damage by enemy action, and which is now making a 10,000 miles tour of the system. The object of the exhibition coach is to stimulate the salvage effort of the 230,000 staff of the L.M.S.R. and also among members of the public who will be admitted to it during its visits to a number of passenger stations. The main feature which differentiates this exhibition from many others of a smilar kind is that its sponsors have succeeded in driving home the value of salvage, not merely by showing the wide variety of materials that should be saved to assist in the war effort, but also by exhibiting a number of the munitions of war into which these materials are converted. Visitors to the coach receive visual evidence of the results of their salvage efforts—far more impressive and satisfactory than exhortation, however fervent. The exhibits have come from all over the L.M.S.R. system and dominating the display are two large photographs, one of a bomber and the other of a train load of tanks; visitors are shown exactly where their salvage is used by these war machines. The figures of salvage collected on the L.M.S.R., details of which are given at page 21, are already impressive; the mobile salvage exhibition in conjunction with the salvage film prepared by the L.M.S.R. and which is being shown in the travelling cinema coach, should do much still further to stimulate this branch of the war effort.

The Economy of the Heat-Treated Rail

Under the stress of war conditions, the heat-treated rail is coming into its own as a means of economising in new rail tonnage. A sorbitically treated 95 lb. rail may reasonably be expected to have a longer life in the track than an untreated 100 lb. rail, and in relaying and rerailing such substitution is likely to be made on a fairly extensive scale, with the result that the rolling of the 100 lb. bull-head section has practically ceased. To replace 100 lb. by 95 lb. rails is simple, as the uniform web and foot of the two B.S. sections are identical, so that the same chairs may be used; but to replace untreated 95 lb. rail with sorbitic 85 lb. rail is not so easy, as with existing standard chairs a generally lighter type of track is involved in the change. Curiously enough, the half-way house that might be afforded by the B.S. 90 lb. section does not appear to come into the picture; this section has never to our knowledge been used by British railways, and we doubt if any British rolling mills have the rolls for it in stock. Despite war conditions, therefore, the tonnage of sorbitic rails which is now being produced by the steel firms in this country that have the necessary equipment is considerable, and we have little doubt that the demand thus created will prove permanent. In view of the recent improvement of the standard rail by the introduction of a medium manganese composition, the margin of superiority of the sorbitic rail is perhaps less than it was, but it is still more than ample to justify, as a sound economic proposition, the purchase of this heat-treated quality.

Porters' Tips

A ruling was given on March 2 by the United States Supreme Court that tips given to "red caps"—the U.S. equivalent of porters—are wages within the meaning of the Fair Labour Standards Act of 1938, thus confirming a decision of the Fifth Circuit Court of Appeals; the latter in its turn had reversed the previous decisions of two federal district courts. The importance of this ruling is the bearing that it has upon the minimum wages paid under statutory authority by the railways to the porters, which may now take tips into account. It was a majority ruling, with five justices in favour, and three giving a dissenting opinion. The latter held that "one who gives a red cap a tip does not necessarily know that he is thereby helping the railroad to discharge its statutory duty of paying a minimum wage to its employees. The tip-paying public is entitled to know whom it tips, the red cap or the railway. A plan like that before us, which covertly diverts tips from employees for whom the giver intended them to employers for whom the giver did not intend them, and to whom any kind of tip doubtless would not have been voluntarily given, seems to contain an element of deception." It will be expecting a good deal of human nature, however, for the red caps to toe the line by making a full disclosure of all the tips that they have received, if by so doing their basic wage is likely to be reduced. If, on the other hand, the probable amount of their tips is made the subject of an assessment for the same purpose, the almost inevitable outcome will be a demand for bigger tips, and in the end the public will do its utmost to dispense with porterage altogether.

American Railways after the War

Writing in the columns of our American contemporary, the *Railway Age*, a contributor, Mr. J. V. Gilmour, has dealt with post-war competition between railway and road traffic operators. He said that the competition from motorised vehicles would undoubtedly be keener than ever before, and that the railways will have to fit themselves in advance for the great struggle that will ensue. In entering it they will have the advantage of already possessing a large part of the nation's traffic, and here possession is a vital point. The railways should, if they continue to perform as they have done up to date, enjoy the confidence and favour of the public, and, as every operating railway officer realises, public goodwill is indispensable. If the railways hold all these advantages, it will, Mr. Gilmour contended, be difficult for any existing transportation agency, no matter to what extent it may be amplified, to displace them as the most economic carriers of passengers and goods in mass movement formation. There is, however, something else to be considered, namely, the bitter fight for business between competitive railways, and it is up to the individual line to consolidate its position now, to build for the future by creating goodwill, by suitable advertising and intelligent public relations programmes. In concluding, he said that in this as in other directions victory would go to the ready and the strong.

Labour and American Railway Closures

A ruling of far-reaching importance was laid down in March by the U.S.A. Supreme Court. In 1941 the I.C.C. authorised the Pacific Electric RR., a subsidiary of the Southern Pacific, to abandon 88 miles of line in the Los Angeles area. Two labour unions, the Railway Labour Executives Association and the Brotherhood of Railroad Trainmen, appealed for a reversal of this decision on the ground that no provision had been made for the protection of the labour displaced by this closure. The I.C.C., however, refused to consider testimony from these organisations on the labour question, contending that it had no power to impose labour-protection conditions on railways seeking authority for abandonments. The case was therefore carried to the Supreme Court, which has now ruled that the Interstate Commerce Act does give the I.C.C. the right, without further legislation, to attach terms and conditions for the benefit of displaced employees, but has added that "whether such terms and conditions should be attached in this case, and if so their nature and extent, are questions for the Commission to decide in the light of the evidence." As a result of this ruling, not only will the Pacific Electric case be reopened, but there is a likelihood that a number of other abandonments in which the protection of the I.C.C. was sought for displaced labour, but was refused because of the claims of this body that it had no power to impose such conditions, will have to be reviewed.

Light-Sensitive Control of Signals

Light-sensitive apparatus has as yet found little application to railway signalling, but has been used for other purposes, such as the control of platform lights, and the intermittent working of escalators. Light-sensitive relays have been employed to some extent in America, and on the Continent, for dimming colour-light signals automatically at the appropriate hour. In wheel counting, too, light beams and receivers have been tried, but difficulties were encountered in ensuring that at the interception of a beam by a wheel only should be effective in influencing the signal controls. In the U.S.A., light-sensitive mechanism has been installed to control automatic signals in the Continental Divide tunnel, which forms part of the Colorado reclamation scheme and

will be 13 miles long, and in which service vehicles run on a 2 ft. gauge single track with passing loops. It is so arranged that a person walking along cannot affect the controls; for this, simultaneous action on duplicate equipment by a full length vehicle is essential. The expense of track-circuiting was not warranted and it might not have been easy in any case to operate it in the conditions which obtain.

A Locomotive Conversion

There have been several cases in the past, indeed, back to the early days, of locomotives fitted with tenders being converted to tank engines, afterwards giving many years of useful life in their altered condition. Another instance is that now being undertaken by the L.N.E.R.; some earlier 0-8-0 freight tender locomotives originally designed and built for the former Great Central Railway are having their tenders removed and side tanks and bunkers fitted in their place. This is being done to provide, with the minimum of delay, some much needed additions to the number of shunting engines available, the demand for which under wartime conditions has become urgent. The tenders taken off the original 0-8-0 locomotives are being fitted after reconditioning to some new engines having the 2-8-0 wheel arrangement now being built at the company's works so that a dual economy measure is being achieved whereby 900 tons of steel has been saved and much existing useful material of a kind which otherwise might have been scrapped retained in service. The tank engines with their eight-coupled wheels are powerful units and should prove extremely serviceable for the heaviest shunting operations; they, indeed, rank as the first with this wheel arrangement to be built by the L.N.E.R. In our view the engines as altered have a very presentable appearance and will doubtless render a good account of themselves in discharging the important duties for which they have been introduced. The article appearing on pages 10 and 11 of this issue gives further details of the locomotives before and after conversion and a perusal of this will, we think, lead our readers to agree with us when we say that what has been done is something upon which the L.N.E.R. and their Chief Mechanical Engineer are to be congratulated.

Locomotive Rods at 100 m.p.h.

The three-figure speeds which began to be attained on test runs with steam locomotives in Great Britain, Germany, and America in the years 1934-35, and in 1938-39 on one or two occasions in France, bore witness to the very high factor of safety which connecting and coupling rods had up to that time possessed, for one would naturally expect that with top speeds going up from the region of 80 m.p.h. to 100/125 m.p.h., and thus increasing the inertia stresses by 35 to 85 per cent., there would be a certain number of rod failures, and the possibility of these must have exercised the minds of those responsible for the trial trips. Yet as far as we know, there has not been a connecting or coupling rod breakage at these speeds with the engines employed, and the nickel or nickel-chrome steels used seem to have an adequate factor of safety in the vertical direction—quite sufficient to meet the combined vertical and inertia stress at wheel speeds of 7 to 8 revs. per sec., or linear speeds of 105/125 m.p.h. Some calculations we made recently showed that at 100/110 m.p.h. a selection of British express engines had combined vertical and inertia stresses of the order of 18,000 to 20,000 lb. per sq. in., against a yield point of at least 60,000 lb. for the material used. On the other hand, these rods have been known to fail at starting by flexing in a horizontal direction; the strength as a column round the vertical axis, that is, a column with square ends, has not been sufficient.

Politeness Pays

" Let us see if Otto can be a little gentleman," seems to be the burning question in Germany today. Tempers, particularly in the capital, are said to be wearing thin under the strain of war; and, although we have heard of no actual case of a railway porter hoping, by the strategic placing of a suitcase, to trip some passenger and cause him to crack his shins, or of a clerk refusing point-blank to supply a new nib for the office pen, Dr. Goebbels evidently thinks that brotherly love in Berlin could stand a little boosting. It appears that public officials, although admittedly the recipients themselves of unkind words and nasty looks, have been apt to forget that " manners makyth man," and prizes recently were offered to those who should be deemed by popular vote to be worthy of such titles as " the most polite railway guard " and " the most polite telephone girl." Some results which have been published concern bus conductors, of whom 22½ per cent. are said to be " really nice," 41½ per cent. to be " normally nice," and 36 per cent. to be of the " unkind type."

Tourist Agents and the Future

THE tourist agency is not a side of railway work that is often referred to in these pages and it may be useful to outline what the tourist agents do. In brief, they are the co-ordinators of all forms of travel and the ancillary facilities for travellers. For example, if a passenger wishes to make a journey involving railway travel, a sea crossing, a wait in a city overnight followed by a long-distance air trip, the tourist agent issues the tickets for all these forms of travel and reserves accommodation by rail, sea, and air as well as the hotel rooms and extras such as meals on the way, transfer by taxi or bus from the station to hotel, or hotel to aerodrome, and so on. Interpreters or uniformed representatives ease the passenger through Customs formalities and similar points of worry. Many of the larger tourist agents began for specific purposes in providing services needed by the original owners or for movements in which the owners were interested. As they began life in the railway era it is natural that it is the railway companies that have benefited mostly from the work of the agents and that the railway companies should in due course have interested themselves more than other transport organisations in the tourist agency business. Apart from Great Britain there are large organisations in North and South America and in the pre-war Europe there were state-controlled bureaux many of which had that control exercised through the railway companies.

During wartime tourist agencies are unable to do more than act for their respective railway companies in such support of the war effort as they can give but the organisations are flexible enough to recommence operations quickly when the world is again fit for travellers. It may be that for a year or two after this war it will not be easy to offer travel outside our own borders and in this connection it might be pointed out that most British tourist business has been internal, although the extent of advertising for Continental resorts and sea cruises often gives the man in the street the opposite impression. Half-day and day excursions, week-ends or longer holidays by the seaside, or on the mountains and moors, special train traffic to national events such as tattoos, or international matches, or an Empire exhibition, or other event provide the bulk of the agent's bread and butter. After the war we may expect all these types of traffic to begin again, invigorated by the lack of holidays of so many people during the war. The problem of hotels, always difficult for the agent, is likely to be even more a source of worry than before the destruction of so many, or the temporary use of an even greater number by military and civil departments. Holiday camps that just before the war were taking a real place in the life of the community in providing a healthy period of relaxation for young and old are likely to increase in number. They will not necessarily be situated at the seaside; open country offers its own attraction to the city dweller.

Provided that transport becomes available within a reasonable time and that it is not necessary to rely solely on converted bombers for long-distance passengers, the far corners of the world will be more open to us than they were before 1939. The force of economics and political lessons learned may involve us in a wave of emigration overseas, a business of which the tourist agent has been always in the forefront because for such a bold step in the human life it is natural for the intending emigrant to consult those in his home town he feels most likely to give him reliable information and with whom he can keep in touch after he has reached his destination. It is remarkable when travelling, say, in North America how often the old settler will refer to the agent with whom he booked his original passage across the North Atlantic. Ethnographical considerations allied with the growth of industry in the Dominions may be the ultimate cause of emigration, but other and less technical considerations may cause another type of travel from the old country to those in which the English-speaking peoples live. The speed of travel has risen more steeply during this war than it did in the last, and that cannot but have the result of reducing considerably the size of the world as measured in hours of travel. Week-ends in North America or longer visits to other parts of the globe within the time limits of the ordinary man's and woman's yearly leave will no longer be dreams; indeed it may be found that the respective governments will so welcome this type of what the Americans call good-neighbour policy, that some Empire Government scheme might sponsor movements that would provide facilities cheaper than could be provided by a private venture making a tentative but bold experiment.

It has been mentioned that the railway companies are those most involved in the tourist agencies but it will be seen how much further than the railway companies' own territory the tourist agencies with which they work have to stretch their knowledge of other railway companies, of steamship routes whether by sea, lake, or river, of air lines, of resorts, and the hotels in them as well as restaurants, places of interest or pilgrimage, and the other manifold details that make up the files

of an international tourist agency. The problems of the future embrace questions of competition between agent and agent, even principal and agent, the rivalries of one form of transport and another although a properly equipped agency must work for all, the canvassing of traffic and the invention of new facilities. The old ways of inter-railway company competition are passed and maybe rail *versus* road, or both *versus* air, sea *versus* air must pass too into an orderly relationship of co-ordinated inter-dependence. All companies need to provide travellers with an up-to-date, easily-approached information service that may well be given in the years to come by national or even Empire tourist offices.

Constituent Railways of 1914 Germany

AMONG many schemes that are receiving popular consideration whereby the potentiality for major aggression might be removed from post-war Germany, is one for dividing the Third Reich into its major constituent states. There is, of course, considerable historic basis for such a suggestion, as for hundreds of years "Germany" was a geographical or racial (or perhaps even a linguistic) aggregation rather than a political entity. In fact, the railways of Germany grew up in such conditions, and up to 1914 there was only one State railway administration which was "Imperial," namely the Alsace-Lorraine (or Elsass-Lothringen) Administration with some 1,150 route miles. The principal State railways within the borders of the Reich were as follow :—

	Miles
Royal Prussian & Hessian State Railways...	24,750
Baden State Railways	1,100
Bavarian State Railways	5,050
Mecklenburg Fiedrich-Franz Railway	680
Oldenburg State Railways	435
Saxony State Railways	2,100
Württemberg State Railways	1,300

These seven major constituent States from 1871 began nationalising the railways in private hands, but they retained their individual entities, and it was not until April 1, 1920, under the Weimar Constitution that the separate State railways were amalgamated under the Central Government. In November, 1923, the combined system was reorganised into a commercially-managed unit, independent of the Government Budget, as one of the measures necessary for the stabilisation of the German currency, and the status of the new undertaking was confirmed on February 12, 1924. This organisation had an effective life of but a few months, for on October 11, 1924, under the Dawes Plan, the German State Railway Company was formed under a scheme which provided that the railways should be worked by the company as a commercial undertaking, in the interests of efficiency, and that a substantial proportion of Germany's reparation payments should be found from the net revenue of the Reichsbahn, the capital charges of which had been wiped out by the inflation, and from the transport tax on the traffic of the German railways. In 1930, when the Dawes Plan came to an end, certain alterations were made under the Young Plan, and the railways practically became State railways, though still administered with a separate budget and financial autonomy by a board nominated by the German Government. Reparation payments were suspended in 1932. On February 12, 1937, the undertaking was once more placed under the exclusive authority of the German Reich and formed part of the Ministry of Transport. Hitler thus cancelled the right of the Deutsche Reichsbahn Gesellschaft to operate the State railways until December 31, 1964.

Antofagasta (Chili) & Bolivia Railway Co. Ltd.

THE owned and operated lines of this company, which has an administration at Antofagasta covering the lines in Chile, and one at La Paz dealing with the Bolivian lines, also provide connections with Argentina and Peru. A system of waterworks is also part of its undertaking. Among the railways operated are the Aguas Blancas, the Chilian Northern Longitudinal, and the Bolivia. In the total traffics carried the year 1941 surpassed the previous year, itself a record. As shown by the recent report, gross receipts of the whole undertaking in 1941 amounted to £1,010,893, an increase of £139,189 or 15·97 per cent., but the working expenses of £877,791 showed an advance of £126,770 or 16·88 per cent., so that in the net receipts the improvement was only £12,419. From the Andes Trust the company received £55,000 by way of dividend and £54,887 from its holding in the bonds of the Bolivia Railway Company. After allowing for the rental payment of 40 per cent. of the gross receipts, the operation of the Bolivia Company's lines resulted in a loss of £67,856, and a sum of £13,830 has been charged in respect of the Antofagasta Company's lease of the Aguas Blancas Railway. The accompanying table compares the financial position of the past two years :—

	1940 £	1941 £
Railway gross receipts	823,072	963,773
Railway working expenses	705,595	832,656
Railway net receipts	117,477	131,117
Total income	440,925	465,834
Debenture interest, rentals, etc.	228,277	218,799
Carried forward	212,648	247,035

The number of passengers carried was 493,134, an increase of 14 per cent., and the receipts therefrom were £53,591, an increase of 7 per cent. Public goods traffic totalled 1,158,365 tons, an advance of 135,305 tons, and brought in receipts of £816,388, which were £112,602 higher than those for 1940. The main items showing improvement in the down traffic were copper bars and sulphur from the Chilean section and tin barrilla, antimony, and wolfram ores from the Bolivian section, and in the up traffic, articles for the mining industry, general merchandise, coal, and petroleum. Apart from the additional cost of dealing with the greater volume of traffic, increases in currency salaries and wages, in local taxation, in payments under the labour laws, and higher prices for fuel and materials contributed to the increased expenditure. The railway operating ratio advanced from 85·73 per cent. to 86·40 per cent. Increases in tariff surcharges came into force on the Bolivian section on December 5 last.

In Chile the salaries and wages bill showed an increase of nearly £20,000, mainly brought about by Law 7064, passed in September, 1941, which introduced a scale of obligatory increases in the salaries of all employees and became retroactive as from January 1, 1941. Expenses were further augmented by Law 6939, which obliges the company to pay annual bonuses to its employees and workmen whether it earns profits or not, such bonuses operating from the year 1940. Therefore in 1941 the company had not only to provide some £24,800 for the bonuses for 1940 but also to reserve an amount of approximately £28,750 for the bonus corresponding to 1941 and payable in the following year. A further additional charge in the 1941 accounts was some £16,000, being a contribution to the reserve for workmen's indemnities payable under Law 6686, which was promulgated in 1940. The oil fuel bill in Chile was higher by some £29,000 and the materials bill by about £14,000. Chilean income tax charges were also up by £14,000.

Publications Received

The Stock Exchange Official Year Book, 1942. London : Thomas Skinner & Co. (Publishers) Ltd., Gresham House, Old Broad Street, E.C.2. 10 in. × 7¼ in. × 4 in. 3,147 pp. Price £4 net. Including postage (British Isles), £4 1s. 6d. ; (Europe), £4 3s. 9d. ; (U.S.A. and Canada, duty paid), $25 ; elsewhere, £4 5s. 6d.—Wartime conditions have again made the preparation of this invaluable work of reference unusually difficult. Notwithstanding the demands of national service and the exigencies of the censorship, the present edition follows in the main those of previous years both in scope and arrangement, and contains all available information as to a mass of securities throughout the world which are likely to be of interest to investors. At the end of the section "Railways—Great Britain and Northern Ireland" will be found a concise statement relating to Government control of railways. Working results of the four main-line railways for the years 1931-1940 inclusive are given (limited, of course, by the requirements of the Ministry of War Transport for the period of control), as well as their investments in other transport undertakings. The Indian Railway section contains particulars of the working contracts between the Secretary of State and the principal companies, and of the annuity arrangements relating to railways already purchased. It is unfortunately still necessary to refer readers to the 1940 edition for the special chapters, on Dominion and Indian finance, on legal decisions of the year, etc., and for the general information on trustee investments, etc., which had to be removed last year in order to comply with the requirements of the Paper Control. A useful list of emergency addresses of companies, registrars, etc., is again given in the supplement, which, as usual, contains information received too late for insertion in the appropriate section.

"Cutanit" Service Handbook : A New Guide for Machinists to Increased Production.—This book, which is distributed by William Jessop & Sons Ltd., and J. J. Saville & Co. Ltd., of Sheffield, presents a great deal of useful information about "Cutanit" brand cemented carbide tips and tools. The introduction of carbide cutting-alloys has influenced greatly the development of machine-tool design. Tungsten carbide is the main constituent of "Cutanit" cutting-tools for use on cast iron, non-ferrous metals, and non-metallic materials ; but to those used for cutting materials with long turnings, such as steel, certain other carbides are added. In the pages of this book will be found a description of the various "Cutanit" grades, and of how to use "Cutanit," together with many facts and figures. Hardness conversion, cutting-speed conversion, and other tables are included, together with a calculator, which gives the working conditions for machining various materials. The text of this handbook covers some 80 pages.

The Scrap Heap

The Western National Omnibus Co. Ltd., in its public advertisements, is advising passengers to save their tickets and take them home for paper salvage. This company uses 38 tons of paper a year for its bus tickets.

* * *

PRISONERS OF WAR STUDY

Twelve British officers who were formerly railwaymen and are now prisoners of war in a German camp have formed a study group. A parcel of books has been sent to them by the British main-line railways through the International Red Cross organisation. A written examination on the subject of railway rules and regulations has been held, and it is hoped to conduct studies for Graduate and Associate Membership of the Institute of Transport. These officers are from the L.M.S.R., L.N.E.R., G.W.R., S.R., and the New South Wales Government Railways.

* * *

TICKETS INTO BULLETS

London Transport is again appealing to bus, tram, and trolleybus passengers not to throw away tickets. Bus tickets have been reduced in size and thickness, but if every passenger put his ticket in the box approximately 20 tons of pulp could be salvaged a week. To impress this point, a small pictorial notice has been posted on all the board's road vehicles. It reads: Tickets into Bullets—Used Tickets are Munitions of War—Put yours in the Box.

* * *

Wanted—Experienced railroad fireman and brakeman. Apply in person with service letter at General Office, L. & H.R. Railway, Warwick, N.Y.

Many years have elapsed since railroads last advertised for operating employees in the newspapers. But the fact is that within the last few months a shortage of experienced employees has arisen *in certain restricted localities*. The above advertisement was placed in a Middletown (N.Y.) daily newspaper by the 72-mile Lehigh & Hudson River RR.—*From the "Railway Age."*

* * *

. . . The section (as far as Angel station) was opened on December 21, 1845, by the Governor of Jamaica, when a special train ran from Spanish Town and back with the Governor on board. The maximum speed attained was 30 miles per hour. The speed appears to have been higher than was considered safe in Jamaica at that time, as the following extract from a newspaper of December, 1845, indicates: "Isaac Taylor, the driver of the train on Sunday evening, was fined £2 for disobeying orders in having put the train at 40 miles an hour instead of 20, as he had been ordered, thereby causing great alarm and endangering the lives of the passengers, inasmuch as there was great risk of the train taking fire or some other accident occurring from the great rapidity of the motion."—*From "Railways of Central America and the West Indies," by W. Rodney Long.*

* * *

TOBACCO TAX HIGHER STILL?

A man who bought a packet of cigarettes recently at Windsor Station, Montreal, tendered the astonished assistant a cheque for $5,000,000 in payment. A mental examination has been ordered.

* * *

HEY—STUDENT PASSENGERS SH-H-H-H-H!
DID YOU EVER NOTICE THAT THERE IS NEVER A COP ON A TRAIN?

That's because we railroad fellows believe that human nature is good nature.

Many of our regular customers have recently complained to conductors about the distracting noises, commotion, and loud talk among some student passengers. We checked up—they are right—some of you are thoughtlessly annoying.

There are only a few countries in the world today that can boast of considerate manners by young and old in public places. Your U.S.A. is one of the few.

So—won't you please be considerate?
Let the brakes do the squealing
Let the whistle do the whistling
Let the smoke stack do the snorting
Let the train do the roaring
Let the rails do the screaming
Let the engine do the pulling and pushing
Let the trainmen do the announcing
Let the conductor do the aisle pacing
Give the other fellow a chance at that seat.
We want to handle this problem with you instead of with your school authorities
Thanks for your patronage and your help

BOSTON AND MAINE RAILROAD

The above is a reduced copy of a 4½ in. by 7½ in. circular which the Boston & Maine RR. recently distributed to its younger set of suburban patrons suggesting more consideration in their behaviour.

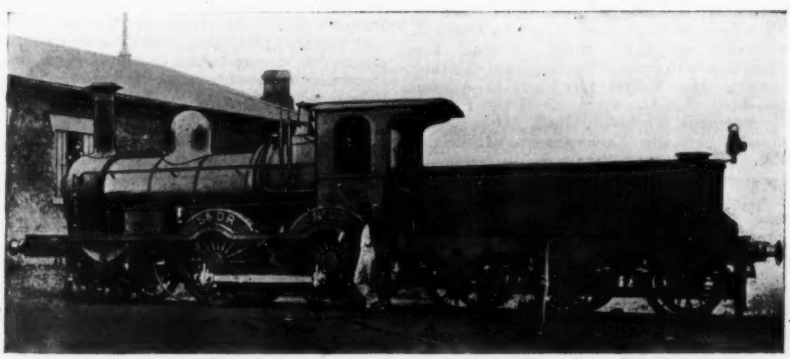
* * *

WHEN A BOGIE IS A TRUCK

In 1899, under the auspices of the Institution of Civil Engineers, a railway conference was held in London and on June 8 the Chairman and Directors of the London & North Western Railway Company entertained the members of the Institution of Civil Engineers by taking them from Euston to Crewe by a special train of new corridor coaches hauled by F. W. Webb's 4-coupled, 4-cylinder compound engine "Iron Duke" No. 1903—a personally conducted tour through Crewe Works by Mr. Webb, and thereafter to a luncheon, served in the Crewe Works drawing office with Mr. Webb in the Chair. The day's outing was brought to a close by the run back to London in the same train and again hauled by "Iron Duke."

During the week many meetings were held in the Imperial Institute by various groups of engineers on many railway matters. One morning, writes a correspondent, I went to the meeting of the Mechanical Engineers; Mr. W. Dean, Locomotive Engineer, G.W.R., was in the Chair. An American engineer was reading a paper on American locomotives. Many British locomotive engineers were present—I remember John F. Macintosh, Mr. Holmes, and, I think, Dugald Drummond.

During the discussion which followed the reading of the paper, Mr. Dean in his remarks said "and now gentlemen you will see that the bogie for express locomotives has come to stay—even our friend here, Mr. Webb, has been converted"—but Mr. Dean got no further, Mr. Webb was on his feet on the instant, and shaking his fist at the Chairman cried out "No Sir—No Sir. It is not a bogie—it's a truck—it's a truck." Mr. Dean smiled calmly and softly said "Well—well Mr. Webb, a rose by any other name would smell as sweet."



A Somerset & Dorset Railway 2-4-0 engine which was built by The Vulcan Foundry Limited in 1866

"Late again, Spenlowe; I'm afraid you'll have to find some better way of getting here of a morning"

[*Reproduced by permission of the proprietors of "Punch"*]

* * *

OFFICER'S HAT

An officer in the Tank Corps who gave evidence at Hendon police court entered the box with his hat on. When told to remove it he said he was under King's regulations.

Sir Charles McRae, magistrate: "In court you're not."

[The paragraph in King's Regulations governing the point reads: "When in a civil court, an officer or soldier (except when on duty under arms or escort inside the court) will remove his headdress while the judge or magistrate is present."]—*from "The Star."*

* * *

Interviewer: What have you to say about anonymous letters?

Professor: They're stupid. I read them but I never answer them.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

WESTERN AUSTRALIA

Dining Car Services

Dining cars operate on the Western Australian Government Railways between Perth and Kalgoorlie, on the interstate service between Western and Eastern Australia. The cars are leased to a private contractor, who provides the whole of the dining car service. Until recently men only were employed, but the lessee has now introduced female labour on some of the cars with satisfactory results. The heavy interstate rail traffic now being handled which makes necessary the running of special trains every week, demands stricter control of staff and general arrangements to ensure that proper service is given, and a hostess has been appointed whose duty it is to travel on the dining cars and see that a proper standard of catering and service is maintained. The innovation has proved very successful and should do much to popularise the dining cars.

Washaways

Exceptionally heavy rains throughout the northern and eastern goldfields districts in January and February caused extensive washaways over a large portion of the railway system, with consequent disorganisation of train services. In many cases roads became bogged and several towns were isolated, in some cases for a fortnight, before communications could be restored. The cost of repairing the damage will be considerable, but benefits to railway dams in the districts concerned will offset to some extent the expenditure incurred; the rains have enhanced also the prospects of a good season and railway revenue should benefit from extra traffic. Further heavy rains occurred during March in a number of the areas previously affected and these have caused washaways at certain points, which have inconvenienced and disorganised traffic.

Perth-Kojonup Road Service

The inauguration of a Government Railway—controlled road transport service—between Perth and Kojonup marks the beginning of an important new phase in the State's transport services. Two important country centres, Kojonup and Williams, are situated on cross-country branch lines, but on a direct main road to Perth, and the respective distances by rail and road are as follows :—

	Rail Miles	Road Miles
Kojonup to Perth	230	168
Williams to Perth	182	109

A road service has been instituted, therefore, to serve the two towns in question and intermediate places. The service, which provides for two trips weekly in each direction, is operated by a bus with seating capacity for 28 persons and caters also for parcels traffic. The vehicle is driven on charcoal gas, and the gas-producer unit is hauled on a trailer. The new service has proved very popular with residents of the district and already the accommodation has been overtaxed on some occasions, so that a third trip weekly is being tried, which, if successful, will be introduced.

The necessity for closer co-operation between rail and road services has been apparent for some time, particularly in districts, of which there are a number in Western Australia, where the more direct route to the city is by road, and it is probable that as a result of the experience gained on the Kojonup route similar services will be introduced in other districts as required.

Revision of School Hours to Relieve Congestion

The restricted use of private cars and the increased use of public transport for Perth suburban travel has concentrated attention on the need for a better distribution of passengers to relieve peak-hour congestion. As far as suburban railways are concerned, no difficulty has been experienced in handling the additional traffic offering, but road services, the augmentation of which is difficult at present, have been severely taxed. Representatives of the metropolitan transport agencies and business and other interests met and discussed various expedients, including the staggering of school hours to take children travelling to and from school off public vehicles during peak periods; it was estimated that about 3,000 school children were involved. As a result, it was arranged that schools to which children travelled by public conveyances should commence half an hour later and the arrangement has contributed substantially towards relieving congestion.

CANADA

Abandonment of Lines in Alberta

Applications by the Canadian National and Canadian Pacific Railways to abandon part of their railway mileage in Alberta have been approved by a majority judgment of the Board of Transport Commissioners. The C.P.R. applied for leave to abandon 64·7 miles of its Alberta Central subdivision, and the C.N.R. asked permission to abandon the operation of 6·51 miles of its line in the Brazeau subdivision; the estimated joint net saving is $58,000. The proposal included a plan for leasing arrangements, under which the C.P.R. would transfer to the C.N.R. some of its route which would be connected with the Canadian National line and substituted for the section which the latter wished to abandon and it was held that the C.N.R. line could carry the combined traffic of the two, although certain grain elevators would have to be relocated.

Proposed Purchase of Railway in British Columbia

Negotiations are said to be in progress for the purchase by New York and Chicago railway interests of the government-owned Pacific Great Eastern Railway in British Columbia, which runs from Squamish, 35 miles north of Vancouver, to Quesnel, 62 miles south of Prince George. The intention is to extend the line from Quesnel, through the Yukon territory, to Alaska, provided that the approval of the Federal Government can be obtained. It is understood that the Government of British Columbia is prepared to consider proposals from the Canadian or United States Governments, or from private railway interests, due to the importance, under present conditions, of an alternative land route to Alaska.

UNITED STATES

Diesel-electric Locomotives for the Louisville & Nashville RR.

Eight 4,000 b.h.p. diesel-electric locomotives are in course of delivery by the Electro-Motive Corporation to the Louisville & Nashville Railroad. Four of these are being allocated to the Azalean and Pan-American service between Cincinnati and New Orleans, a journey of 922 miles, and the remaining four to the Southland and Flamingo trains between Cincinnati and Atlanta, 489 miles. It is estimated that the high percentage of availability of the diesels will make it possible to release from 15 to 18 passenger steam locomotives for other duties, and this release will be particularly valuable at the present time, when the numerous additional passenger trains needed for troop movements, and for duplicate portions of ordinary trains, have made it necessary to divert freight locomotives to these duties.

A New Duplex Sleeping Car

On April 10 the Pullman Company placed in service, on the General express of the Pennsylvania RR. between New York and Chicago, a new type of sleeping car with no fewer than 24 individual "roomettes." Each alternate room is on an elevated floor-level, 2 ft. above the car floor-level, so that the rooms are dovetailed mezzanine-fashion into one another. The upstairs beds are folded into the wall when out of use, and those on the ground floor are rolled into the spaces beneath the steps leading to the upper rooms. Passengers have the full interior space of their roomettes in which to prepare for the night, and a light touch is all that is needed to pull the bed into position, so that the car attendant's help is unnecessary. All beds are 6 ft. 5 in. long and 32 in. wide. Each roomette has its own folding washstand, toilet facilities, individual heat and air-conditioning controls, ample baggage space, and other standard equipment. Because of the economy in space, the charge for accommodation in this car is only 10 per cent. more than for a lower berth in one of the earlier convertible, or "section," sleepers. The new car is to be used on services all over the United States, to test the public reaction to this type of accommodation, before further construction of the same type is attempted.

The City of Salina

After a working life of less than seven years, the City of Salina, the first complete diesel-electric train built for service in the United States, has just been scrapped. Built for the Union Pacific RR. by the Pullman-Standard Car Manufacturing Company, doubtless as a result of the success of the Flying Hamburger in Germany, this three-car unit was delivered on February 12, 1934; in May of that year it completed a nation-wide tour in which 65 cities were visited, and 1,195,609 route-miles of line were covered. It was exhibited at the Century of Congress Exhibition in Chicago in 1934, and put into regular service on January 31, 1935, between Kansas City and Salina. Due to its insufficient accommodation, it was taken out of service on December 16, 1941, and scrapping began on February 13.

Southern Pacific Freight Development

Extremely heavy freight movements along the Pacific seaboard have resulted in the drawing up by the Southern Pacific Railroad of an extensive programme of new sidings and yard extensions. During 1941, 37 miles of new tracks were laid down, and further important projects are now in hand. At West Oakland, opposite San Francisco, $300,000 is being spent on removing or relocating 6 miles of tracks and on laying 11½ miles of new tracks. At the Polvo yard at Tucson, Arizona, on the Golden State route, between Los Angeles and Kansas City, $146,000 is being laid out on a westbound marshalling yard, with

8 miles of new tracks, and a new office building. Expenditure of $196,000 has been authorised on 6 miles of new tracks and on the relocation of existing tracks at Dunsmuir, Cal., as well as on relocation of the main line over a considerable distance. As to work recently completed, 12½ miles of new sidings have been laid at Eugene, Ore., a turntable of 126 ft. dia. has replaced the previous 100 ft.-turntable, four stalls have been added to the engine shed, and a new 65,000-gal. water tank has been erected, at a total cost of $328,000; at Klamath Falls, Ore., $115,000 has been spent in laying four miles of additional track and in improving the facilities; and $69,000 has been laid out at Brooklyn, Ore., on 1½ miles of additional yard tracks and other improvements.

The Panama Limited

The new Panama Limited train of the Illinois Central Railroad went into daily service between Chicago and New Orleans early in May on a schedule two hours faster than hitherto. Although the streamline equipment was ordered eight months before American entry into the war, the new train will serve a wartime need by releasing for military movements 19 passenger-train coaches and five steam locomotives, which up to now have been required for operation of the Panama Limited. It fills also a demand for improvement in the passenger service between the Great Lakes and the Gulf. There are two sets of coaching stock, built by the Pullman-Standard Car Manufacturing Company, each consisting of sleeping, lounge, observation, dining, and dormitory-baggage cars. The train is equipped with a complete automatic dial-telephone system connecting all the sleeping cars with the dining, lounge, and observation cars. There are individual radio receiving sets in observation, louhge, and dining cars, and a public address system permits of announcements being made in public spaces throughout the train. There are train-speed indicators in observation and lounge cars for the information of passengers. Motive power is provided by diesel-electric engines, built by the Electro-Motive Corporation.

ARGENTINA

Tariffs and Wage-Cuts

In accordance with the authorisation granted them by the Government Decree dated March 5 last, all the privately-owned railways have increased their passenger and goods tariffs by 5 and 10 per cent., respectively, as from April 3. In reply to the communication addressed to the Minister of Public Works by the representatives of the railways (reported in our June 5 issue), the Government issued a supplementary Decree confirming and clarifying the provisions of the original one. This Decree establishes that, with the increased revenue derived from the higher tariffs authorised, the companies shall (*a*) discontinue the wage-cuts; and (*b*) " apply part of the increased receipts towards payment of the contributions to the railway pension fund, in accordance with the provisions of the relevant law." It would appear, therefore, that any balance remaining over, after the foregoing conditions have been satisfied by the companies, may be devoted to the improvement of their financial position during a period of one year from the date of the original Decree. It is anticipated that the wage cuts will cease as from April 1, although the unions had requested the Government to make the measure retrospective to March 1. In reply to the representations made by the companies that the Decree dated March 5 left their own economic problems still unsolved, the confirmatory Decree points out that it was agreed generally that preference should be given to the solution of the problem created by the wage retentions at a time when the cost of living was rising. It was necessary also to consider the situation of the pension fund, into which the companies had paid no contributions for some years. It was thought that both these problems could be dealt with by means of a moderate increase in tariffs, which could be borne easily by the commodities affected by the higher goods rates due to their present high value. As to the economic situation of the railways, the Decree states that it is deemed advisable immediately to commence, with the co-operation of the companies, a study of the measures proposed by the Director-General of Railways in the report issued some time ago. Presumably the report referred to in the Decree is that issued by the National Railway Board in May, 1940, copies of which were sent to the companies and the railway unions, as was reported in our June 5 issue, but the contents of which were not made public.

Increased Tariffs on State Railways

The increase in tariffs has been extended to include the State railways, at the same rates and under the same conditions as those applying to the private companies. Although, in the case of the State railways, the question of suppressing the wage-cuts does not arise, the Government lines owe to the pension fund a sum estimated, at the end of 1940, at over 17,000,000 pesos, and the additional receipts produced by the increased tariffs will be used for the purpose of liquidating this debt. Moreover, the placing of the tariffs on the same level will obviate unfair competition between the State and foreign-owned lines.

The Problem of Transport Co-ordination

The possibility of a serious disorganisation of the country's transport system, due to the ineffective manner in which the National Transport Co-ordination Law is being applied, is admitted in a Decree issued by the Ministry of Public Works. The law in question was passed by Congress at the end of 1937, but up to now it has failed entirely to achieve its end, and the railways, the road transport concerns, and the travelling public, all of whom were intended to benefit in different ways, are agreed that either it must be repealed, or radically amended. Some time ago an advisory committee was appointed by the Government to study the question and recommend such alterations in the law as might be essential to make it workable. As the committee has not presented its report as yet, the time allotted for the purpose has been extended for a further six months. This has been rendered necessary by the new problems which have arisen, with regard especially to the tariffs competition. The Decree referred to points out that if the existing conditions are allowed to continue, a tariff war will develop, which will result either in the crushing of the smaller companies or in an illegal agreement being reached between all the transport concerns to share the profits derived from a virtual monopoly.

SWITZERLAND

Swiss Federal Railways

The board of the Swiss Federal Railways has worked out a ten-year plan, involving an estimated expenditure of 760 million Swiss francs. This chiefly relates to the construction of double tracks where necessary, enlargement of certain stations, reinforcement of bridges, elimination of level-crossing, and completion of electrification of the system. The board has been obliged to restrict passenger traffic still further. This is due to the increasing shortage of fuel and of materials necessary for the maintenance of rolling stock, and to conserve electric power for industrial purposes. The winter timetable which came into force in October, 1941, showed a reduction in passenger services of a little over 10 per cent., resulting in a daily average mileage of 10,000 km. (about 6,250 miles). The portion cancelled represents a daily mileage of 2,500 km. (about 1,625 miles). Week-end tickets have been withdrawn, but in order to spare the hotel and tourist trades as far as possible, holiday-season tickets have been issued again from April 1. Compared with pre-war figures, Swiss railway traffic now has been reduced by about 20 per cent., and, due to the shortage of tyres, it is announced that motor traffic also will be restricted further. The profit and loss account of the Swiss Federal Railways for 1941 shows that total revenue was 214·5 million Swiss francs and expenditure to 196·1 million, which represents a net profit of 18·4 million francs.

DENMARK

Railway Developments

Some details of Danish railway improvements were given in our May 15 issue, and further information is available now of work which is being carried out to improve traffic conditions and to ease the congestion caused by the virtual stoppage of coastal shipping. This includes the construction, during the course of the year, of a second track between Roskilde and Lejre, a distance of 8 km. (5 miles) to the west of Roskilde, in the direction of Kalundborg. In Northern Jutland, a second track has been completed recently over the 81 km. (50 miles) between Randers and Aalborg, and the State Railway station at Hjorring has been reconstructed so that it serves also the three privately-owned lines which previously had separate terminal stations there. (Previous mention was made of these improvements in Northern Jutland in our May 15 issue.) Hjorring is on the Aalborg-Frederikshavn main line, and the three private railways concerned are Hjorring-Hirtshals, Hjorring-Hørby, and Hjorring-Lokken-Aabybro. Two new berths are to be built at Elsinore harbour, one for the railway ferry of the Elsinore-Hälsingborg service, and the other for the motor-vehicle ferry.

The increase in coal traffic has placed a heavy strain on the railways: the metric tonnage of coal carried in 1941 exceeded that of 1940 by 434,000, and more than 600 wagon-loads a day are said to have crossed the Danish-German land frontier on some occasions. A difficulty has arisen in connection with the increasing conveyance of bicycles as passenger train luggage. During the financial year 1940-41 972,000 bicycles were carried, against 410,000 in the previous financial year.

CEYLON

Another Line Closed

Efforts to avert the closing down of the Avissawella-Yatiyantota branch, in the Kelani Valley, mentioned in our May 8 issue, have not met with success. The line is being dismantled, and stations and buildings belonging to the railway will be handed over to other government departments.

Signalling Arrangements for Emergency Bogie Bridge

SOME details were given in our issue for November 7, 1941 (page 480) of the construction and working of an emergency bogie bridge, arranged to carry a single-line branch connection over a double-line special alternative route, not normally used, but provided to meet possible interference with the regular traffic routes. The relation of levels did not allow of the emergency avoiding line being carried over or under the branch line by an ordinary bridge, but necessitated its being laid at a level of 5 ft. below.

The required opening through the branch line was obtained by inserting in it a movable bridge, formed of two spans of girders with rails, carried on a pair of platelayer's bogies, themselves travelling on rails laid parallel with the ordinary track for a short distance and then leading away to short run-off sidings, each side of the double line, where the removed bridge pieces are kept until once more required for use. This portion of the work was fully illustrated in our earlier article and needs no further reference. Brief mention was made therein to the special signalling arrangements installed and by the courtesy of the Engineer concerned, we are now enabled to illustrate them by the accompanying diagrams. In Fig. 1 is seen the general arrangement at the location concerned.

In normal working colour-light signalling is in force, and the single-line branch has a connection to the main lines in each direction; it is the right-hand one (looking from the branch) that passes over the bogie bridge. Signal box A ordinarily controls the whole area. The connections to the new alternative route are spiked for the normal main line. Near them is signal box B, normally out of service, but arranged to work those connections and other necessary points mechanically in case of need. The semaphore signals worked from the box are ordinarily crossed as "out of use." When emergency working is put into operation, the power supply is cut off at a special disconnection box, extinguishing the light signals. The facing points on the single-line branch are spiked for the left-hand direction, isolating it from the route over the bogie bridge. The remaining special precautions needed are marked on the diagram.

The box B works with box C on the alternative route, and the block circuit is normally broken down at Annett's key locks in the former box. The rails on which the bridge bogies run are raised by packing under the chairs 1½ in. above the track proper and this allows of the rail in the 4-ft. way being made temporarily continuous by a jumper piece, seen in Fig. 2 and the photographic illustration, which is merely dropped in place before the bogies are moved. When the latter have been taken into their respective sidings it is essential to secure them there and make sure that the jumper piece is not left in position fouling the main running rail, before regular working on the alternative route is allowed to begin. This is accomplished by a chain and key system of interlocking (Fig. 2). When the scotch block is turned across the spur track to confine the bogie therein, the jumper piece B must be clear of the main line, as the length of chain between the two will not allow it to remain in position across that line. When the scotch is across the spur track rail, the key in the Annett lock

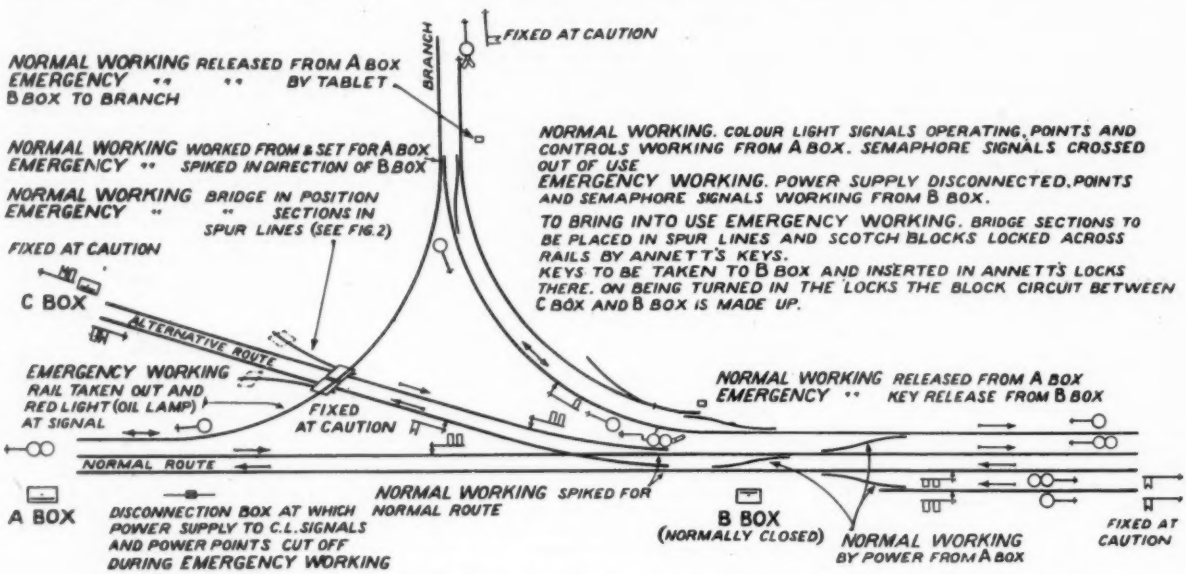
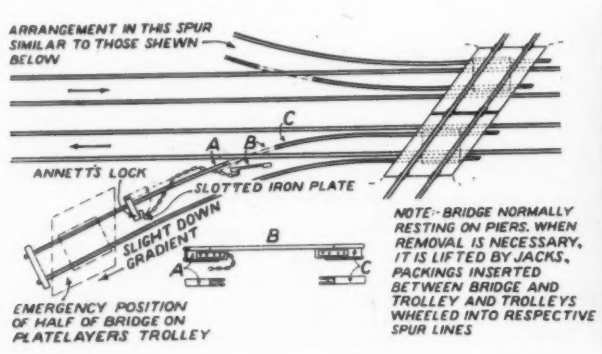

NORMAL WORKING RELEASED FROM A BOX
EMERGENCY " " BY TABLET
B BOX TO BRANCH
NORMAL WORKING WORKED FROM & SET FOR A BOX
EMERGENCY " SPIKED IN DIRECTION OF B BOX
NORMAL WORKING BRIDGE IN POSITION
EMERGENCY " " SECTIONS IN SPUR LINES (SEE FIG.2)
FIXED AT CAUTION
C BOX
ALTERNATIVE ROUTE
EMERGENCY WORKING
RAIL TAKEN OUT AND
RED LIGHT (OIL LAMP)
AT SIGNAL
FIXED AT CAUTION
NORMAL ROUTE
A BOX
DISCONNECTION BOX AT WHICH POWER SUPPLY TO C.L.SIGNALS AND POWER POINTS CUT OFF DURING EMERGENCY WORKING
NORMAL WORKING SPIKED FOR NORMAL ROUTE
BRANCH
FIXED AT CAUTION
NORMAL WORKING. COLOUR LIGHT SIGNALS OPERATING, POINTS AND CONTROLS WORKING FROM A BOX. SEMAPHORE SIGNALS CROSSED OUT OF USE
EMERGENCY WORKING. POWER SUPPLY DISCONNECTED, POINTS AND SEMAPHORE SIGNALS WORKING FROM B BOX.
TO BRING INTO USE EMERGENCY WORKING. BRIDGE SECTIONS TO BE PLACED IN SPUR LINES AND SCOTCH BLOCKS LOCKED ACROSS RAILS BY ANNETT'S KEYS.
KEYS TO BE TAKEN TO B BOX AND INSERTED IN ANNETT'S LOCKS THERE. ON BEING TURNED IN THE LOCKS THE BLOCK CIRCUIT BETWEEN C BOX AND B BOX IS MADE UP.
NORMAL WORKING RELEASED FROM A BOX
EMERGENCY " KEY RELEASE FROM B BOX
B BOX
(NORMALLY CLOSED)
NORMAL WORKING BY POWER FROM A BOX
FIXED AT CAUTION

Fig. 1—Signalling arrangements at junction between normal and alternative routes and on connecting lines

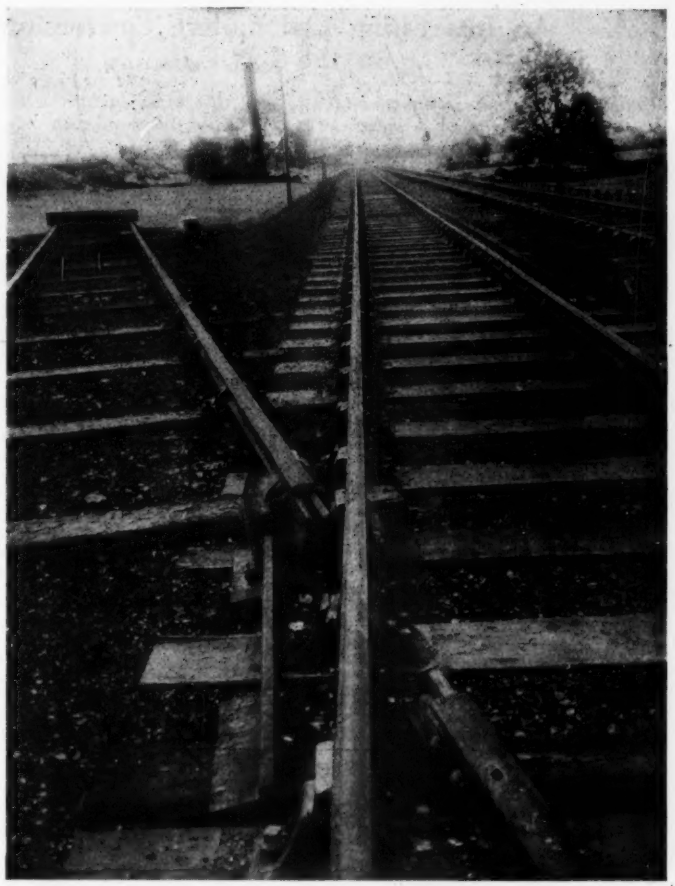

ARRANGEMENT IN THIS SPUR SIMILAR TO THOSE SHEWN BELOW
C
A
B
ANNETT'S LOCK
SLOTTED IRON PLATE
SLIGHT DOWN GRADIENT
B
A
C
EMERGENCY POSITION OF HALF OF BRIDGE ON PLATELAYERS TROLLEY
NOTE:-BRIDGE NORMALLY RESTING ON PIERS. WHEN REMOVAL IS NECESSARY, IT IS LIFTED BY JACKS, PACKINGS INSERTED BETWEEN BRIDGE AND TROLLEY AND TROLLEYS WHEELED INTO RESPECTIVE SPUR LINES

Left: Fig. 2—Chain and key interlocking in connection with spur siding-scotches and rail jumpers. Right: Crossing jumper in position

can be withdrawn, securing the scotch, and taken to the signal box and placed in the corresponding lock there. When both tracks have been dealt with in this manner, block signalling can be begun between boxes B and C.

The whole of the signalling arrangements necessitated by the introduction of this novel bridge were designed in the Signal Department under the Signal & Telegraph Engineer.

Key interlocking affords a ready means of effecting the controls required in emergency work of this kind, and although much used overseas and in some Continental countries—France especially—for the interlocking of ordinary stations, has been used to a limited extent only in Great Britain. The former L.N.W.R., however, had at one time a number of small stations key interlocked. The name of J. E. Annett, who took out a patent in 1875, has been applied in this country ever since to such apparatus. In France the name of Charles Bouré, who died in retirement in 1937, after 36 years with the former P.L.M. Company, occupies a similar position. Even today large numbers of stations in that country are almost entirely key interlocked and it is claimed that this results in considerable savings in maintenance costs. In the Bouré system chains are often used to connect the various functions and determine whether a lock shall or shall not be operable, as in the arrangement immediately under review. In India many adaptations of key locking have been devised, and some widely used, but the tendency now is to prefer ordinary direct working wherever practicable, as the key worked stations are necessarily slower in operation and more subject to disturbance from incidents, as when a key is damaged or lost. Malicious interference with isolated apparatus has there to be contended with, and in this respect key systems are possibly at more disadvantage than others. The carrying of keys can, of course, be much diminished by using electrical transmission control, but this does not altogether eliminate the disadvantages, and additional equipment and line wires are required for it.



Right: Jumper crossing fashioned from a bull-head rail with bottom flange and part of the web cut away

Concrete Sleepers in France

A type of concrete sleeper tried by the Northern Railway of France on its main line a year or two before the war. It will be noticed that the blocks are of such a section as to carry the weight directly on to the ballast for a limited width between the rails only, and are tied by means of light section steel channels. The rail fixing consists of clips held by nuts on bolts inserted in the sleeper, and the rail joint is supported directly on to the sleeper

An Interesting Locomotive Conversion on the L.N.E.R.

Tender engines have been converted to shunting tank engines with a substantial saving in the use of steel and time of production

IN present circumstances there is urgent need for additional shunting locomotives to meet the requirements of wartime freight traffic, and the problem of getting the engines into service with the minimum of delay has been solved by the London & North Eastern Railway in an ingenious and highly practical manner. Older type 0-8-0 engines with tenders, to the number of 25 which, but for the war, would probably have been sent by now to the scrap yard have been converted into side-tank engines retaining the same wheel arrangement, and also the original cylinders and motion and certain other component parts.

By thus avoiding the construction of new shunting engines which, in the prevailing conditions, would not only have been difficult to accomplish, but would have caused considerable delay, 900 tons of steel will be saved, and as no new steel castings have been required, no demands have had to be made on steel-foundry capacity.

The tenders made available by the conversion will be allocated to new 2-8-0 coal traffic locomotives now under construction at the company's works, with the result that it will be possible to place these engines more quickly into service. The work of conversion is, in fact, taking place side by side with the building of the 2-8-0 engines. The locomotives that are being altered and given a fresh lease of life have the 0-8-0 wheel arrangement and were built by the former Great Central Railway between 1902 and 1911. Classed as Q4 by the L.N.E.R., only 16 of them will still be in service when the present conversion scheme is completed.

As tank engines they will, as already stated, retain the 0-8-0 wheel arrangement. The side tanks will hold 1,500 gal. of water and the bunker 4½ tons of coal; the total weight of each engine in working order will be 69 tons 18 cwt. The framing at the back end has been built up to take the tank engine type of buffer and drawgear arrangement, but apart from these alterations the whole of the old material has been worked in. They have a tractive effort of 25,644 lb. and are considerably more powerful than the standard L.N.E.R. six-coupled shunting engine and they will therefore be used for the heaviest shunting duties.

Painted wartime black, and with the company's totem on the bunker sides in place of the large letters L.N.E.R. that have been displayed hitherto, No. 5058, the first engine to be rebuilt, is now in service. The work of the conversion of these engines has been carried out to the designs of Mr. E. Thompson, Chief Mechanical Engineer of the L.N.E.R.

The converted engines take over the classification formerly given to the now extinct G.N.R. K1 0-8-0 locomotives. Engine No. 5058 and the others of the series will represent the first tank engine design of the 0-8-0 type to be built by the L.N.E.R. Only one 0-8-0T engine has previously been possessed by the company; this was No. 500B of the former Great Central (ex Wrexham, Mold & Connahs Quay Railway) which was withdrawn in the first year of grouping.

The engine, No. 5058, was shown to representatives of the Press at Liverpool Street Station on Thursday, June 25, and was later in the same day inspected by some of the directors of the L.N.E.R. It created a great deal of interest and much favourable comment.

On the opposite page are illustrated the engines before and after the process of conversion and one of the new engines with the tender of the old 0-8-0 locomotive incorporated.

San Francisco River Bridge Construction, Argentine State Railways

A brief description of the conditions imposed and methods employed in this work

THE Argentine State Railways recently have been constructing a 220-km. (metre gauge) extension from Joaquin V. Gonzalez to Pichanal, close to the Bolivian frontier, involving the crossing of several rivers including the San Francisco, a tributary of the Bermejo. During the month of February the San Francisco is sometimes as much as 2 km. (6,560 ft.) in width near the bridge site, though in October it may be only 40 m. (131 ft.) wide. The gradient of the river is about 1 in 1,000, and the estimated maximum discharge some 100,000 cusecs; the average velocity then is 8·1 ft. per sec. The opening provided by the bridge was fixed at 650 m. (2,133 ft.); this figure was arrived at from the above and following considerations.

The river bed consists of 29 ft. of pure sand, overlying 7 ft. of sandy clay, over 7 ft. of compact clay, over 13 ft. of sandy clay, over 6½ ft. of very compact clay. It was decided, therefore, to use nine semi-parabolic 72-m. (236-ft.) Pratt truss through type spans, supported by mass concrete piers and abutments, founded on twin reinforced concrete cylinders 5 m. (16 ft. 4 in.) in external diameter; 3-m. (9 ft. 10 in.) cylinders were used to carry the abutment wing walls. The total length of the bridge between abutments was thus 656 m. (2,152 ft.), and a clear headway in high flood of 2·44 m. (8 ft.) was allowed beneath each span.

The Sinking of the Reinforced Concrete Cylinders

The shoes for the cylinders were concreted *in situ* and sinking was begun within 6 ft. 6 in. steel piling cofferdams. Ordinary internal dredging with grabs and simultaneous pumping was used, and, in the main, the cylinders sank under their own weight until the harder clay was reached. Kentledge consisting of loads of rails varying from 40 to 200 tons had to be used in the later stages of sinking, which was continued until the foundations had gone down to 10 to 12 m. (33 to 40 ft.). Those of the northern abutment, however, had to be sunk to 55 ft. depth because of the low resistance of the river bed; the 3-m. cylinders here were sunk to 30 ft. Some difficulty was experienced with "blowing" or syphoning, and also due to encountering snags in the form of large trees during the cylinder sinking. For excavation in the softer strata 12-cu. ft. grabs were used, but for the stiffer clay, 23-cu. ft. grabs, weighing 1¼ tons, were found to be necessary.

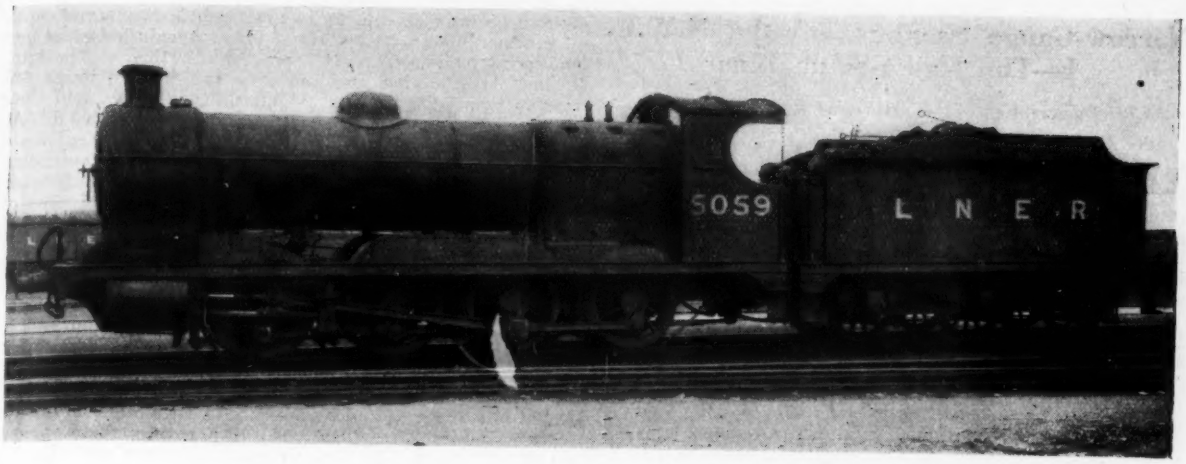
Erection of Superstructure

The trusses of each girder span are 16 ft. 5 in. apart, centre to centre, each truss has eight panels, and each span weighs 259 tons.

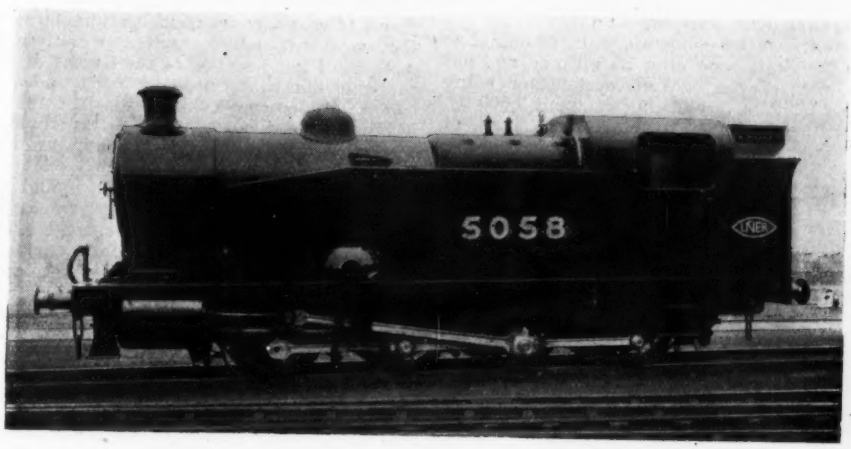
During the low-water season the stream was partly dammed up with logs and brushwood so that its flow was concentrated under No. 6 span of the bridge, leaving the other eight spans high and dry. For those spans, therefore, it was possible to erect falsework for girder erection, consisting of timber bents resting on sleeper cribs, so as to distribute the loading over the soft ground. Two sets of this falsework were used. In the case of No. 6 span—over the low-water channel—the timber bents were supported by piles braced with rails. The pile-driving was facilitated by the use of ¾-in. dia. jet pipes, through which water was pumped.

For the actual erection, a travelling crane brought the members to site, and they were then placed in position by a portal type or gantry crane fitted with a 6-h.p. petrol hoisting engine; traversing and travelling were carried out by hand power. Due to inexperience and unforeseen delays the first span took nearly a month to erect, before riveting, but the remaining spans were each erected in from 7 to 12 days. Some trouble was then experienced in the correct levelling for camber due to the wide variation of temperature within a few hours, but this was overcome, and riveting subsequently went ahead with pneumatic hammers; ten riveting crews often were employed simultaneously on each span.

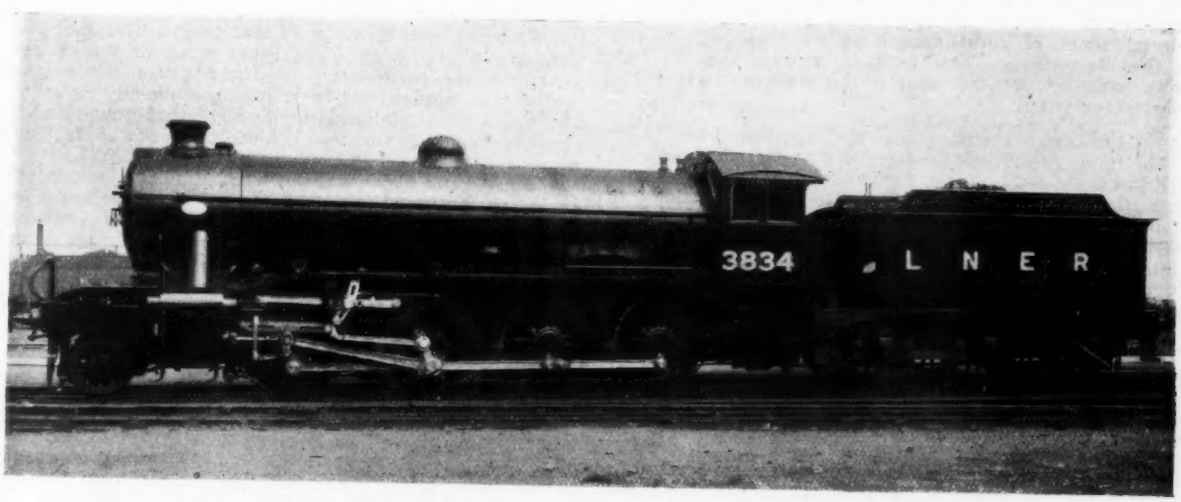
Occupation Crossing Accident.—At an occupation crossing between Wargrave and Shiplake on the Twyford-Henley branch of the Great Western Railway on a foggy morning in June, 1941, an engine ran into and killed some cattle belonging to Mr. J. W. Knight, who had the right to use the crossing. Mr. Knight claimed damages and the company denied negligence. In the action which came before Mr. Justice Tucker in the King's Bench Division, judgment was given on June 24, 1942, for the railway company. The evidence showed that the engine approached the crossing at 30 miles an hour, that at that speed it could be pulled up in about 100 yards, that visibility at the time was 30 to 50 yards, that the driver whistled at the whistling board, and that the signals were in his favour. It was explained by the judge that the degree of care required at a private accommodation crossing such as this might vary considerably from that necessary at a public crossing. In the circumstances he considered it would impose too great a burden of care on the driver to hold that he was negligent merely because he could not pull up within the limits of visibility.



"Q4" type engine and tender before conversion



"Q4" type engine converted into shunting tank engine and re-classified "Q1"



New "O2" type engine with reconditioned tender made available by the conversion of the "Q4" engine

LOCOMOTIVE CONVERSION ON THE L.N.E.R.

(See article on opposite page)

Narrow-Gauge Sections of the N.W.R.
I—The Kalka-Simla Line

A brief description of this hill railway, its rolling stock, and traffic

THE all-but 7,000-mile Indian North Western Railway—fourth longest in the Empire—is mainly of 5 ft. 6 in. gauge, but it also has a number of interesting 2 ft. 6 in. gauge branches, most of them in the Himalayas and their foothills. Chief among these narrow gauge lines are the Kalka—Simla, Kangra Valley, Kalabagh—Bannu—Tank, and Zhob Valley sections.

By virtue of its importance as the summer capital of the Indian Empire and the seat of Army Headquarters and of the Government of the Punjab, Simla has a large population for about six months in the year, and there is a heavy influx from Delhi and Lahore about April and a corresponding downhill rush period about October.* During these migratory seasons the capacity of the Kalka—Simla railway is taxed to the utmost, despite a heavy road traffic at the same time. Consequently, it is designed with frequent train-crossing stations, worked with electric token block instruments, and is laid with a heavy rail for this gauge.

5,000 ft. Net Rise and 102 Tunnels

Though built by a private company, this 59-mile line was taken over by the State soon after its opening and has been worked as a part of the N.W.R. system for many years. Starting from Kalka at an altitude of about 2,000 ft., its final level is just under 7,000 ft. at Simla, but the ascent is not continuous; three ridges followed by three countergrades intervene. The main line is laid throughout with 60-lb. flat bottom rails on wood sleepers and stone ballast, the ruling gradient is 1 in 33, and the sharpest curve 110 ft. radius; all curves with less than 140 ft. radius are provided with check rails, and sidings are of 41¼-lb. material.

A feature of this hill railway is the tunnelling involved. Of its 59-mile length, 5¼ miles are in tunnel and the number of tunnels is 102, mostly on curves and many of them on reverse curves. The longest is Barog tunnel, 3,750 ft. in length. During the monsoon some of the tunnels are very wet and in the past considerable trouble in the shape of pitted rails was caused by drippings from the roofs. As a protection, galvanised iron trays have been fitted under the crowns of the worst offenders; the water is carried off by downtake pipes. There are few girder bridges due largely to the fact that the local stone is suitable for good masonry, which takes the form of box culverts, arches, and an elaboration of the latter known as galleries. These are built up of several series of superimposed arches as shown in one of the illustrations. This form of bridging even in high bank has the advantage that it can conform to even the sharpest curvature.

Operating Methods and Locomotives Used

The traffic capacity of the line has already been mentioned and this is secured by there being no fewer than 19 crossing—or as they are called in some countries passing—stations, all equipped for block working; the longest block section is 4½ miles and the shortest 1½ miles in length. Seven of these stations are watering stations and there are facilities at Barog for supplementing the supplies of coal on ascending locomotives. The minimum layout at these stations is two running lines and either an additional loop or relief siding. Neales token instruments are installed for block working, and there is a home and a starter signal for traffic in each direction; the starters are released only by the withdrawal of a key from the appropriate token instrument. In place of distant signals, large white boards are erected beside the line, and, as a further warning during mist and in heavy rain of the approach to the board and station, a white-washed band across the track is maintained half-a-mile beyond each board.

Though other locomotives have been tried, it has been found that the exacting duties required by heavy traffic over long 3 per cent. grades are best performed by the standard 2-6-2 type tank engines forming the whole locomotive stock of the line. There are 23 of these used for main-line passenger and goods services and 4 more for shunting. The later engines, which differ in detail from earlier ones, weigh 38½ tons of which 28 tons are available for adhesion, and their tractive effort at 75 per cent. boiler pressure is 14,000 lb. As will be seen from the illustrations, a speciality of these powerful little locomotives is the water tankage extending from cab to front buffer beam and full (or more than) boiler height; 1,250 gal. of water are carried and also 1¼ tons of coal; this is in a bunker over the firebox and rear ends of the side tanks. Opportunity is taken of the fact that all mail and passenger trains stop for about half-an-hour at Barog, 26 miles from Kalka—for meals at the refreshment room—for up trains to refuel, roughly half way to Simla. Powerful electric headlights are fitted both in front and in rear, as these engines are never turned and work cab-first when descending. This gives drivers an excellent outlook when most needed, as the principal trains run down into Kalka late at night, and the absence of a trailing coal bunker still further improves their view. Altogether, these engines are a fine sturdy job and are not only very powerful for the gauge but equipped with all modern improvements.

Rolling Stock

Some engines of the Kitson-Meyer type were introduced about 14 years ago for goods working on this line, and though they gave satisfactory results, were afterwards transferred to work the 1 in 25 section of the Kangra Valley line. This was probably due to the need for a very powerful engine on the steeper grade, coupled with the fact that these articulated locomotives did not conform to the standard type of K.-S. section engine, which, in fact, has proved capable of handling all the traffic.

The rolling stock, both passenger and goods, is virtually all carried on bogies. The standard composition of both mail and passenger trains is six coaches of a very comfortable type and having lavatory accommodation; water is carried below the underframes and is pumped up as required. Because of their faster speeds, however, the most popular means of travel over this very beautiful length of line is by the railcars, of which there are seven. The four largest of these seat 12, 16, or 18 passengers, and there are two small four-seaters; the earlier cars are petrol driven, but the later ones are diesel-engined; mechanical drive is used.

Interchange Facilities and Goods Traffic

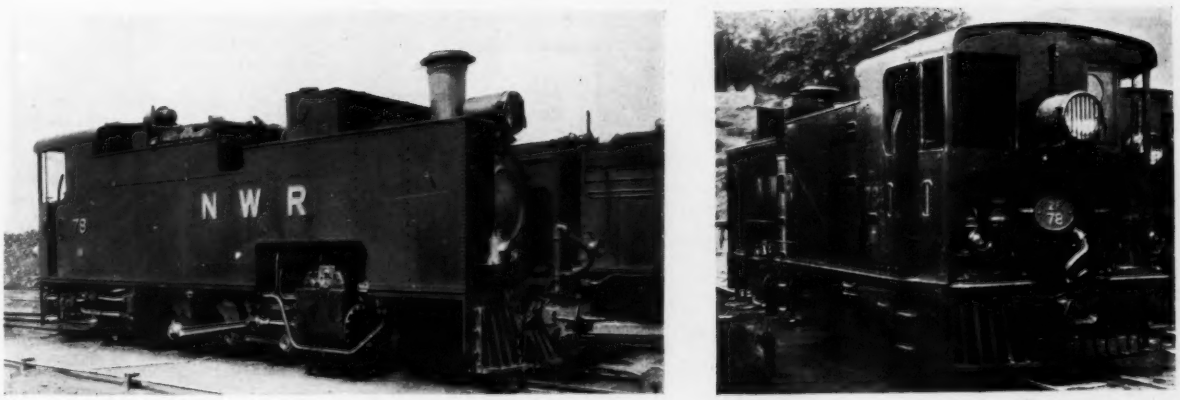
To cater for the heavy interchange traffic between 5 ft. 6 in. and 2 ft. 6 in. gauges during the rush periods at Kalka, ample accommodation is provided. One of the illustrations shows the narrow gauge passenger yard and two of the three platforms for trains of that gauge. The third platform beyond the 2 ft. 6 in. gauge train on the extreme right, has one narrow and one broad gauge face so that parcels and luggage can be transhipped directly across it. The broad gauge station is in the right background and its platform roofing can be seen behind the smoke of the Simla train.

A considerable goods traffic is handled all the year, largely in timber from the Himalayan forests downwards and piece-goods and general supplies upwards. There is also seasonal fruit traffic and in heavy food and domestic supplies during the summer months for the greatly enhanced hill population. It must be remembered that Simla is the railhead for the Tibet road which, though only suitable for pack animals and pedestrians, serves a vast area in the Himalayas.

* News telegrams state that the Government offices are not to move up to Simla this summer from Delhi, presumably as a measure of war economy.

Engineering Wing for Royal Albert School, Camberley.—The King has given approval to, and has headed the list of subscribers for, a plan to erect an engineering and electrical school, which will form a new wing at the Royal Albert School, Camberley, as a memorial to the late Duke of Connaught; a memorial committee has been formed under the chairmanship of the Lord Mayor of London. The school provides board and education, at low fees, or free of cost, for 140 boys, most of whom are sons of men who have given their lives in the service of the Crown. The memorial wing, which will be known as the Connaught Building, and which it is not proposed to construct until after the war, will be used for the training of selected pupils in mechanical or electrical engineering.

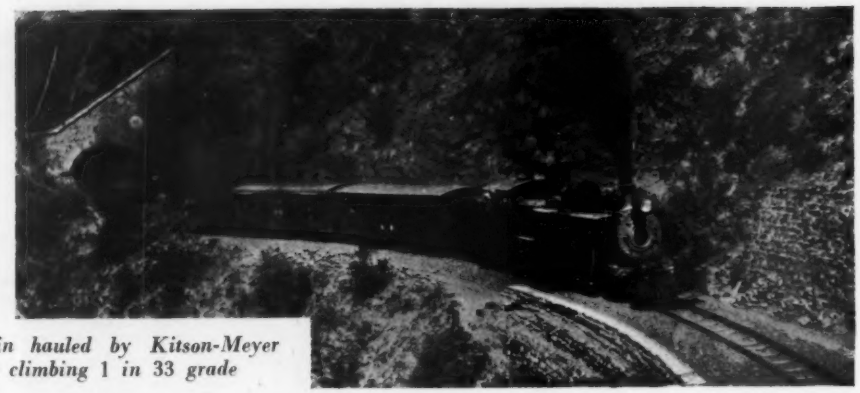
One of the galleries peculiar to the Kalka-Simla Railway



Two views of one of the standard 2-6-2 Kalka-Simla type tank engines

The 2 ft. 6 in. part of Kalka station and yard with train ready to leave for Simla

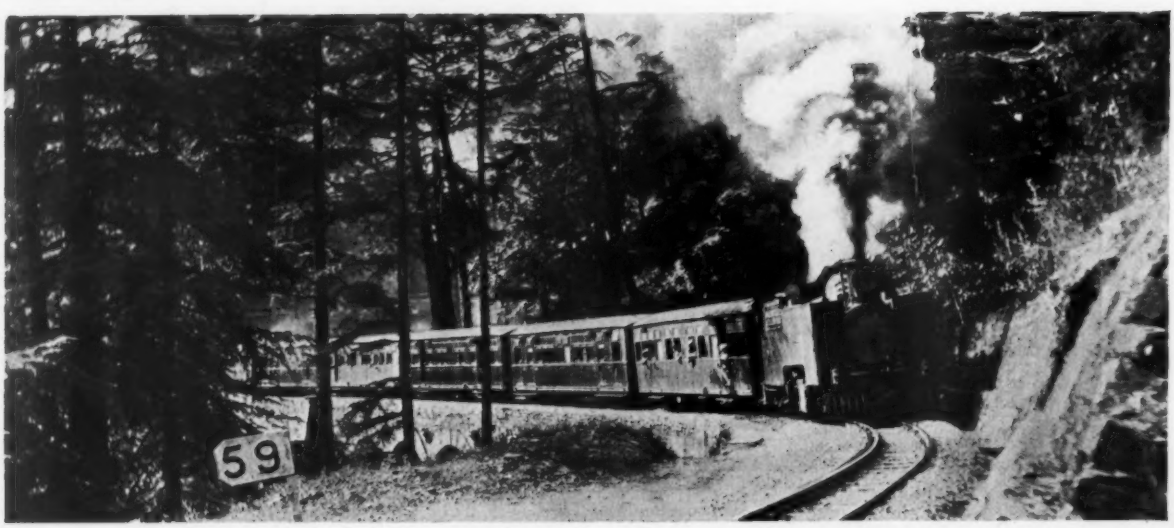
(*See article on opposite page*)



Up goods train hauled by Kitson-Meyer locomotive climbing 1 in 33 grade

Left: Up passenger train on one of the more exposed hillsides on the Kalka-Simla line of the North Western Railway, India. The reverse curve will be noted

(See article on page 12)



Up mail train approaching Simla in typical surroundings

RAILWAY NEWS SECTION

PERSONAL

The Minister of Aircraft Production has appointed Mr. Alexander Dunbar to be Controller-General at the Ministry in succession to Sir Charles Craven, who has resigned that appointment on medical advice. Mr. Dunbar has been Director in charge of the aviation branch of Vickers-Armstrongs Limited since 1938. Sir Charles Craven is Chairman & Managing Director of Vickers-Armstrongs Limited.

The Secretary of State for the Colonies has appointed Mr. J. A. Calder to be Third Crown Agent for the Colonies, from August 1. As Mr. Calder, who at present is seconded from the Colonial Office to the Ministry of Supply, as a Principal Assistant Secretary, will continue to be so seconded, Mr. H. F. Downie, an Assistant Secretary, Colonial Office, has been appointed Fourth Crown Agent for the Colonies from the same date, and will act as Third Crown Agent during Mr. Calder's absence.

The two newly-established posts of Deputy Secretary at the Ministry of Labour & National Service are to be filled by Mr. G. H. Ince, Director-General of Manpower, and Sir Frederick W. Leggett; Mr. H. C. Emmerson succeeds Sir Frederick Leggett as Chief Industrial Commissioner. The reorganisation at the Ministry is due to the transfer of Sir Frank Tribe to the Ministry of Fuel & Power as Secretary.

Mr. W. M. Perts, Commercial Superintendent, Southern Railway, who recently was appointed Chairman of the R.E.C. Passenger Committee, was presented on June 5 with a gold medal to commemorate his attainment of 50 years' service with the Southern Railway. The presentation was made by the General Manager, Mr. E. J. Missenden. A portrait of Mr. Perts was reproduced in our May 29 issue.

Mr. Robert Reade, who retired recently from the position of Commercial Assistant to the Traffic Manager, G.S.R., Eire, has received a presentation from members of the staff of the Traffic Manager's Office, Kingsbridge Station, Dublin. The presentation took place at the Clarence Hotel, Dublin. A portrait of Mr. Reade was reproduced in our June 19 issue.

Mr. Bruce Ball, junior, has been appointed Joint Managing Director of Glenfield & Kennedy Limited. He had been Sales Manager of the company for many years, and became a Director twelve months ago. Mr. A. S. MacLellan, and Mr. H. Gardner, Works General Manager, have been appointed Directors, to fill vacancies caused by the death of Mr. S. B. Wilson, and by the resignation of Mr. Robert Kennedy. Mr. MacLellan is head of the engineering side of Alexander Stephen & Sons Ltd., of Linthouse.

Mr. D'Alton C. Coleman, who, as recorded in our May 8 and 15 issues, has been appointed President of the Canadian Pacific Railway Company, was born in 1879, and commenced his career as a journalist He joined the Canadian Pacific Railway in 1899 as a clerk in the Assistant Engineer's Office at Fort William, Ontario, and subsequently served as Chief Clerk at Cranbrook, North Bay, and Winnipeg. His knowledge of company affairs gained

Mr. D'Alton C. Coleman
Appointed President,
Canadian Pacific Railway Company

him further promotion, and he was appointed Superintendent at Nelson, B.C., in 1907. In the next year he returned to Winnipeg, where he was at first Superintendent, Car Service, Western Lines, and then, four years later, General Superintendent of the Manitoba Division. Shortly afterwards he went to the Alberta Division in a similar capacity, and in 1915 he was appointed Assistant General Manager, Western Lines, Winnipeg. He became Vice-President of C.P.R. lines west of Port Arthur in 1918, at a time of depression which necessitated many changes; during this period and in similar but worse economic conditions some years later, Mr. Coleman carried out successfully necessary readjustments. In 1934 he became Vice-President, Director, and member of the Executive Committee of the C.P.R. Mr. Coleman's business interests were recorded in our May 15 issue; his railway activities include the Presidency of the Quebec Central Railway, and of the Dominion Atlantic Railway; he is Vice-President of the Pennsylvania-Ontario Transportation Company, and is a Director of the Northern Alberta Railways Company, and of the Toronto Terminals Railway Company. His wide knowledge of Canadian history has been of much assistance to him in his work.

In the second supplement to *The London Gazette* of June 23, 1942, it is announced among the changes in the Territorial Army, Royal Engineers, that Lt.-Colonel A. J. Barry, C.B.E., T.D., M.Inst.C.E., (25360), resigns his commission June 24, 1942, and retains the rank of Lt.-Colonel.

Major R. Miles, M.Eng., has been re-elected as President of the Institute of British Foundrymen for 1942-43. He is Managing Director of Head, Wrightson & Co. Ltd., of Thornaby-on-Tees.

Mr. A. R. Dunbar, District Superintendent, Leeds, L.N.E.R., who, as recorded in our June 26 issue, has been appointed to act as District Superintendent, Manchester, entered the service of the former North British Railway, in 1920, as a junior clerk. In 1924 he was selected by competitive examination to undergo three years' training as a traffic apprentice, under the L.N.E.R. training scheme. He was appointed Assistant Yardmaster, Guide Bridge, in 1928; Deputy Chief Controller, Manchester Control Office, in 1931; and, two years later, Deputy Chief Controller, Central Control Office, Liverpool Street. In 1935 he became Yardmaster, Sheffield, and, in the next year, Assistant District Superintendent, Manchester; his appointment as District Superintendent, Leeds, dates from 1940. Mr. Dunbar is an Associate Member of the Institute of Transport.

Mr. Ashton Davies, C.V.O., O.B.E., J.P., Vice-President, London Midland & Scottish Railway, has been appointed Assistant Provincial Grand Master, Lancashire (Western Division).

Mr. Charles H. Nicholson, A.M.I.Mech.E., A.M.I.E.E., District Docks Machinery Engineer, Hull, L.N.E.R., who, as recorded in our June 26 issue, has been appointed Docks Machinery Engineer, Hull, was educated at the Hull Technical College. He began his career with the old Hull & Barnsley Railway, and, at the time of the amalgamation of that line with the former North Eastern Railway, was Chief Electrical Engineer. After this amalgamation he was appointed Assistant Mechanical Engineer, Hull Docks, N.E.R., an appointment he continued to hold after the further grouping took place and the L.N.E.R. came into being. In 1930 a reorganisation of the dock working at Grimsby and Immingham took place, the then mechanical section of the Docks Engineer's Department, and the Electrical Department being merged, and in May of that year Mr. Nicholson was

Mr. C. H. Nicholson

Appointed Docks Machinery Engineer, Hull, L.N.E.R.

appointed Mechanical Engineer, Grimsby & Immingham Docks, taking charge of the reorganised Departments; it was this post he vacated in order to become District Docks Machinery Engineer at Hull.

We regret to record the death through enemy action on June 28, at the age of 73, of the Rt. Hon. Lord Glanely, who had been a Director of the Great Western Railway Company since 1922. As Mr. William James Tatem, he had been elected a Director of the former Rhymney Railway Company in 1907, and was one of the directors of that company selected to join the board of the enlarged Great Western Railway Company. In 1916 he received a baronetcy, and in 1918 he was raised to the peerage. He was High Sheriff of Glamorganshire in 1911-12, and had taken a leading part in the life of South Wales, where he had held many public offices. Lord Glanely's greatest interests were in shipping; he had founded the Tatem Steamship Company with only one vessel, and, within a few years, he controlled a fleet of merchant ships. He was Chairman of the Tatem Steam Navigation Co. Ltd., and of W. J. Tatem Limited; and he had been Chairman of the Cardiff & Bristol Channel Shipowners' Association.

G.W.R. Appointments

The Great Western Railway announces the following appointments:—

Mr. J. F. M. Taylor, Assistant Divisional Superintendent, Worcester, to be Divisional Superintendent, Worcester, *vice* Mr. J. E. Potter, deceased, as from June 29.

Mr. G. E. R. Penny, Chief Clerk, Divisional Superintendent's Office, Exeter, to be Assistant Divisional Superintendent, Worcester, as from June 29.

Mr. W. P. Morgan, Chief Clerk, Divisional Superintendent's Office, Swansea, to be Assistant Divisional Superintendent, Swansea, as from May 25.

Southern Railway Appointments

The Southern Railway announces the following appointments from July 1, 1942:—

Mr. H. E. O. Wheeler, Superintendent of Operation, to be Deputy Traffic Manager.

Mr. W. J. England, Assistant Superintendent of Operation, to be Superintendent of Operation.

Mr. S. W. Smart, Assistant for Train Services, to be Assistant Superintendent of Operation.

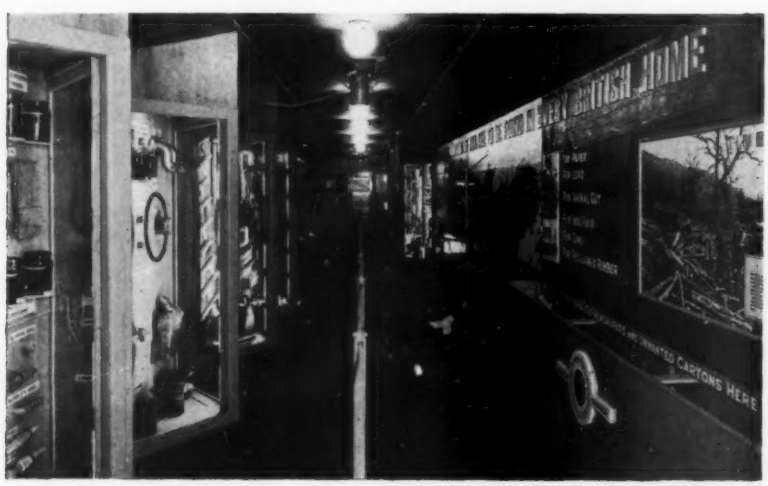
Mr. S. A. Fitch, Acting General Purposes Officer, to be Assistant for Train Services.

Mr. J. A. Jenkinson, District Superintendent, Manchester, London & North Eastern Railway, who, as recorded in our June 26 issue, has been appointed to act as Liaison Officer, Port of Birkenhead, commenced his railway career as a junior clerk in the Nottingham district in 1899. Six years later he was transferred to the Chief Goods Manager's Office, and in 1908 moved to the Stores Superintendent's Office at Gorton. The next year he passed

Mr. J. A. Jenkinson

Appointed to act as Liaison Officer, L.N.E.R., Port of Birkenhead

the G.C.R. higher grade examination, as a result of which he received a course of training in all the principal departments. On the completion of this training, Mr. Jenkinson was attached to the train despatch office at Doncaster, and in January, 1914, transferred to the General Manager's Office for special duties in connection with the Royal Commission on railways. He became Assistant District Superintendent & Goods Manager, Marylebone, in March, 1914, and during the last war served in France as an officer with the Railway Operating Division, Royal Engineers. He was appointed Assistant Traffic Manager at Grimsby Docks in December, 1919, and transferred to Manchester as Assistant District Superintendent in January, 1925. He was appointed District Superintendent, Manchester, in 1928. Mr. Jenkinson is the joint author of various books dealing with railway economics and working.



The interior of the L.M.S.R. Mobile Salvage Exhibition Coach. Both salvaged materials and the munitions and so forth for which they are used are displayed in the cases along the side of the coach **(see article on page 21)**

TRANSPORT SERVICES AND THE WAR—146

"Austerity" in Jamaica

In view of petrol-rationing in Jamaica, many motorists on long journeys are now sending their cars as far as possible by rail, and only completing their journey by road. The Mayor of Kingston has bought a bicycle and now rides every day to the mayor's parlour.

Standard Buses for South Wales

The two buses shown in the accompanying illustration are the first of a number being supplied, under the licence of the Ministry of War Transport, to the Western Welsh Omnibus Co. Ltd. These are 55-seat vehicles with wartime standard bodies of low overall height, mounted on A.E.C. diesel-engined Regent chassis. The bodies are by Northern Coachbuilders Limited, which estimates that at least 30 per cent. of the work on these standard double-deck bodies was carried out by employees without previous experience of bodybuilding. Succeeding vehicles will be of orthodox standard type, seating 56 passengers.

CARTAGE OF GOODS
The following special arrangements have become necessary owing to heavy demands for cartage of goods:—
TRAFFIC CONSIGNED 'CARRIAGE PAID HOME'
Goods in Classes 1 to 10 cannot be consigned Carriage Paid Home' unless prior arrangements have been made with the railway company for cartage to consignees
TRAFFIC CONSIGNED AT DELIVERED RATES
When unusually large quantities of goods are proposed to be consigned at rates including delivery, the consignor, in order to avoid delays, should ascertain in advance from the railway company whether the goods can be delivered at destination.
RAILWAY EXECUTIVE COMMITTEE

New R.E.C. poster announcement

L.M.S.R. Mobile Transport Offices

Numbers of carriages have been converted by the L.M.S.R. for use as emergency offices and messrooms should existing accommodation be made unfit for use by aerial attack. These mobile transport offices and messrooms are completely self-contained; they can be attached to an express train and moved to any particular place or district at short notice. With their aid the task of directing the movement of vital war supplies can go on uninterrupted, even if the offices are totally destroyed.

Every mobile office provides accommodation for a staff of 16. Lighting is either by electricity from an outside supply, or by oil lamps should no supply of electricity be available. The heating is by coal stoves, which can remain burning while the vehicles are in transit. Temporary telephone lines can be "laid on." Portable steps are carried, so that the mobile office can be used anywhere, should a platform not be available. The number of units to be supplied will vary with the individual circumstances.

The mobile messrooms are fitted with their own kitchens. A large coal-fired oven is provided, as well as a boiler for hot water, storage, cupboards, table, and sink. Accommodation in the messroom is provided for 40 persons. There are no glass lampshades in the vehicles; translucent moulded plastic material has been used.

Indian Railways and the War

The effect of the war on the Indian railways increased rapidly during the financial year ended March 31, 1941, in respect of which the report by the Railway Board has just been issued. Traffic increased both on account of military requirements and the rapidly increasing volume of supplies. Three large railway workshops were handed over complete for munitions production and, by March 31, 1941, the greater part of the spare capacity of other railway workshops was being used for the production of numerous war requirements, including shells, grenades, and articles used in clothing, feeding, arming, transporting, and housing the fighting Forces. Railway workshops also undertook the training of skilled labour for war work. Increasing difficulties in getting supplies of materials from abroad involved the trial of substitutes, and the reduction in supplies of materials vitally required by other departments for war work necessitated railways reducing to the minimum their demands for commodities, such as steel, which affected both repairs and replacements. Railways had to supply a considerable mileage of track for shipment overseas for defence purposes and, although the major portion came from railway stocks and reserves, seven branch lines were dismantled and one branch line was in process of dismantlement at March 31, 1941. Railway staff with specialised technical qualifications were lent to the Supply Department, and the railways assisted in raising a number of Railway Military Units for service overseas. By March 31, 1941, more than 100 officers from Class I Railways were serving in various units under the Defence Department, and 25 officers had been lent to the Supply Department for war work.

Railways in the Ostland

Rail transport in the Ostland, or Eastern Occupied Territories, has been organised by Germany in three sectors, namely, the Northern, with headquarters at Vilna; the Central, with headquarters at Minsk; and the Southern, with headquarters at Kiev. The Northern sector represents approximately the old Baltic States of Lithuania, Latvia, and Estonia. It may be recalled that on July 21, 1940, under Russian pressure, these three countries decided to become Soviet Republics and to join the Soviet Union. The railways of Lithuania were afterwards incorporated in the U.S.S.R. Railways, under a management division established at Vilna, with operating sub-divisions at Vilna, Siauliai, and Kovno (Kaunas). The Latvian State Railways also became incorporated in the U.S.S.R. Railways, under a management division established at Riga, with operating sub-divisions at Riga, Daugavpils (Dvinsk), Gulbene, Jelgava (Mitau), and Libau. It was afterwards reported that the lines of 4 ft. 8½ in. gauge were being converted to the Russian gauge of 5 ft. Similar steps were taken in Estonia, where a management division was established at Tallinn, and there were operating sub-divisions at Tallinn, Tartu, and Moisakula.

Since the German occupation of these territories they have been under military control, but, as the Russian line was pushed back towards Moscow, Germany has re-introduced civilian administration. In March last a German Decree was issued recognising the authority of the national administrations in the three former Balkan States, and (under a further decree of May 15) local self-government in the towns, communes, and rural districts is to be re-established on July 1. In Lithuania the Minister of Transport is K. Germanas, and in Latvia Oskar Leimanis.

On April 1 a section of former White Russian territory was transferred to Lithuania, thus making one further change in the eastern frontier of Lithuania, which has been the subject of dispute for 22 years (see THE RAILWAY GAZETTE of April 22, 1938, page 795).

On April 14, Dr. Dorpmüller, the German Minister of Transport, arrived in Riga in the course of a tour of inspection through the Northern sector of the Ostland. He afterwards proceeded to Estonia (where he visited Narva and Petseri, as well as Tallinn), and then to Lithuania. Among the officials of the German administration in the Ostland with whom he had consulta-

Standard body low-height 55-seat A.E.C. diesel-engined buses for the Western Welsh Omnibus Co. Ltd.

tions was Vizepräsident Westphal, Head of the Haupteisenbahndirektion Nord.

On April 15 a Danish economic mission headed by Gunnar Larsen, the Danish Minister of Transport, arrived in Riga to discuss the possibilities of a revival of economic relations between Denmark and the Baltic States. The mission spent several days in Riga and also visited Tallinn and Kaunas; it returned to Denmark on April 30. This tour was followed by Gunnar Larsen's visit to Berlin in May.

It is reported that the Germans have made considerable progress in the conversion of the railways in the Baltic States of Estonia and Latvia to the standard gauge of 4 ft. 8½ in.; the railways of Lithuania were originally constructed under the Russian regime on the 5 ft. gauge, but were converted to standard gauge during the German occupation in the war of 1914-1919, and remained standard, at any rate until Lithuania became a Soviet Republic in July, 1940.

At the present time it appears that State Railway Administrations have been re-established in all three of the Baltic States. These are operating independently, but subject to general German direction through the Haupteisenbahndirektion Nord.

Roumanian Sleeping Car Services

The following sleeping car services in Roumania are now being operated by the Compagnie Internationale des Wagons Lits: Bucharest to Timisoara; Bucharest to Arad; Bucharest to Cernauti; Bucharest to Jassy, *via* Pashcani; Bucharest to Chisinau, *via* Tecuci; Bucharest to Chisinau, *via* Galatz and Basarabeasca; Bucharest to Galatz; and Bucharest to Budapest, *via* Cluj (Kolozsvár in Hungarian).

Traffic between Roumania and Germany

Goods traffic between Roumania and Germany, *via* Cernauti and the General Gouvernement of Poland was resumed on December 20, 1941. Particulars of the through passenger trains between Bucharest and Berlin, *via* Krakow and Breslau, were given in the article on the railways in the General Gouvernement of Poland which was published at page 640 of our June 5 issue. One fast train daily in each direction, carrying Mitropa sleeping cars, has been worked since December 14 last.

New Railway in Bessarabia

While the Russians were in occupation of Bessarabia they built a broad-gauge (5 ft.) railway line branching off at Arciz from the Cetatea Alba to Basarabeasca line 90 km. (56 miles) to the west of Cetatea Alba, and leading *via* Tatarasti, Fantana Zanelor, and Carlibaba to the Danube port of Ismail. The length of the line is 111 km. (69 miles) and it was reopened for traffic (presumably after conversion to standard gauge) during February. Ismail is an important river port near the top of the Danube Delta, which has had no rail connection until now. The new line is single track. It has two stations at Ismail, one serving the town, and the terminus in the port. Between Arciz and Ismail there are six intermediate stations and one halt. All the railways in Bessarabia are now open for traffic excepting the section Rezina-Tara (72 km.) of the Rezina-Baltzi line.

New Road Bridge in Hungary

A new bridge carrying the 68-mile Miskolc-Debrecen State-owned road over the River Tisza was opened to traffic on May 16. It replaces the pontoon bridge established there in 1936. The nearest bridges were upstream near Tokaj, 28 miles away, and downstream near Tiszafüred, 37 miles away. The length of the new bridge is 1,312 ft., of which the two iron spans bridging the river bed account for 338 ft. each, and the two openings in the concrete sections of the bridge on the banks account for 105 ft. each. The arches over the inundation zones on each side of the river have a length of 328 ft. and 98 ft. respectively. The cost of the bridge, including the approaches, amounted to Pengö 3,500,000. The pillars of the bridge and bridge heads are sufficiently wide to support the intended bridge for the new standard-gauge railway line between Miskolc and Debrecen, though the railway bridge will be otherwise quite separate from the road bridge.

Lemberg-Budapest Motor Road

An important motor road is at present under construction between Lwow (Lemberg) and Budapest. Work was begun more than a year ago, but was suspended during the winter months, and resumed recently. The road follows closely the route of the railway from Lwow *via* Stryj, and Munkacs, to Batovo (Batyu) in Ruthenia. The route thence to Budapest is different from that of the railway.

Traffic between Bulgaria and Turkey

The temporary bridges over the Rivers Maritza and Tunja are stated to have been opened for traffic on June 17, thus restoring rail communication between Turkey and Bulgaria after an interruption of 14 months. Two passenger trains are said to be working daily, one between Istanbul and Svilengrad, and one between Istanbu and Sofia. The morning departure from Istanbul is to Svilengrad only, and the evening departure runs through to Sofia. The principal importance of this railway link at present is for goods traffic.

Interstate Journeys Banned in Australia

From July 1 all interstate travel in Australia, except for uniformed Servicemen, is prohibited unless the traveller holds a priority travel permit.

Producer-gas Motors in Sweden

In April, 1940, when Sweden's import of petrol was stopped, there were only about 1,000 producer-gas motor vehicles in Sweden. By the end of 1941, that is, within 21 months, 61 per cent. of the country's total pre-war fleet of lorries and buses, and about 17 per cent. of the motorcars, had been converted to producer-gas operation. On January 1, 1942, there were 72,755 producer-gas motor vehicles in Sweden, of which 29,944 were motorcars, 39,147 lorries, and 3,664 buses. Of the total, 39·2 per cent. used wood gas, and the balance charcoal gas. Wood gas is used by 24·5 per cent. of the motorcars, by 49·2 per cent. of the lorries, and by 48·9 per cent. of the buses. Early in 1941 about 120 firms were busy with conversions and with the production of producer-gas plants, of which no fewer than 335 types had been evolved. Many of these models were eliminated as a result of unfavourable operating experience. The Gengasnämnd (State Generator-Gas Commission) eliminates models found to be unsuitable either technically or economically. The Swedish Automobile Club also studies the various models from the point of view of their economic working. A new law prescribes that all producer-gas operated motor vehicles must be fitted with fire extinguishers.

Uruguay Train Service Cuts

Drastic restrictions on railway services in Uruguay, including those on British-owned lines, were announced in Monte Video on June 19. Fuel shortage is stated to be the reason.

Brazilian Railways under Military Control

All Brazilian railways have now been placed under military control by Presidential Decree, in the interest of national security, according to a Rio de Janeiro message of June 17.

Desert Railway to Tobruk

Since the withdrawal of the British Forces from Libya, it has been made known that the extension of the railway westward from Mersa Matrouh had been all but completed to Tobruk. A 108-mile extension of the Western Desert Railway, said to have been built by New Zealanders in about six months, was recorded at page 314 of our February 27 issue. Before the fall of Tobruk, it was announced by the German radio that this railway had been cut between Tobruk and Sollum.

Important New Niger Bridge

A new bridge across the River Niger at Bamako, Upper Senegal, which was opened on June 8, is stated by the Paris radio to be of strategic importance in facilitating access to the Trans-Sahara Railway from the southern parts of French West Africa. Our sketch map at page 559 (November 28, 1941, issue) showed a projected railway from Dahomey to Bamako, which would cross the River Niger at that point to join the existing Dakar-Segou line.

Why Mr. Tupper got an Upper!

Obviously Mr. Tupper, being a man who likes to keep his chassis on the ground, didn't take this upper by choice. Frankly it was the only space left when he called for a reservation.

At the present moment, Mr. Tupper is scarcely in the frame of mind to remember that our responsibility to the armed forces—calling for instant and urgent cooperation—may limit accommodations upon occasions.

Moreover we must handle both military and civilian travel with our present equipment, as priorities make it impossible to build new passenger cars at this time.

The accommodation that Mr. Tupper would have preferred might be moving soldiers hundreds of miles away. We think this is as it should be—that first things come first. And Mr. Tupper, a "right guy" at heart, doubtless would agree.

You may have experienced no inconvenience whatsoever in obtaining accommodations up to now. But should any occur, we believe that your understanding of the problem will brighten your acceptance of the solution.

NEW YORK CENTRAL

The Water Level Route...You Can Sleep

NEW YORK CENTRAL SYSTEM

Buy United States War Saving Bonds and Stamps

Typical U.S.A. wartime "goodwill" advertisement

RAILWAY AND OTHER MEETINGS

The Antofagasta (Chili) & Bolivia Railway Co. Ltd.

The annual general meeting of the Antofagasta (Chili) & Bolivia Railway Co. Ltd. was held at Winchester House, Old Broad Street, E.C.2, on June 30. Mr. A. G. Hunt, Chairman of the company, presided.

The Chairman, in his statement circulated with the report and accounts, said that the gross receipts for the year amounted to £1,010,893, or £139,189 more than for the previous year. All but £12,419 of this increase was absorbed by increased expenditure. Nearly half-a-million passengers were carried, an increase of 14 per cent.; the increase in receipts was 7 per cent., as compared with 1940.

Public goods traffic totalled 1,158,365 tons, or an increase of 135,305 tons compared with 1940. In receipts the increase was £111,602; the main items showing improvement in the down traffic were copper bars, and sulphur from the Chilean section and tin barrilla, antimony, and wolfram ores from the Bolivian section, and in the up traffic, articles for the mining industry, general merchandise, coal, and petroleum. Nitrate was again a disappointing traffic; the quantity carried was 108,643 tons; there was no prospect of an improvement until the demand for nitrate justified the re-opening of some of the closed oficinas.

The copper bar traffic of 225,389 was easily a record, and with the demand for copper for war purposes, this traffic was likely to be maintained. Sulphur continued to show a steady increase in tonnage, but this traffic bore only a low rate of freight. The total tin barrilla carried was 67,391 tons, an increase of 14 per cent.; antimony ores of nearly 23,000 tons showed an increase of 24 per cent.

Working expenses increased £126,770, or nearly 17 per cent. This was in part accounted for by the greater volume of traffic handled; other contributory causes were increases in currency salaries and wages, higher taxation in Chile, additional payments under the Chilean Social Laws and higher prices for fuel and materials.

To compensate the company for increased labour costs as well as for the further depreciation in the sterling value of the Bolivian dollar which had fallen from Bs. 142 to the £ in January to Bs. 182.80 from July onwards, authority was eventually obtained from the Bolivian Government to increase the surcharges on tariffs by 50 per cent. in the case of passenger fares, 35 per cent. on luggage and general goods, and 15 per cent. for articles of first necessity. These additions came into operation on December 5, 1941. Application had been made to the Chilean Government for authority to increase Chilean section tariffs, but so far without success.

To the net profit of £133,102 was added the dividend of £55,000 from the Andes Trust Limited, income of £54,887 from the holding of Bolivia Railway Company's 5 per cent. mortgage and collateral trust income bonds, and income of £10,197 from investments, registration fees, etc., which together with the balance of £212,648, brought forward from 1940, gave a gross amount of £465,834. Interest on the debenture stocks required £126,113, and after providing for the loss on working of the Bolivia Railway Company's lines, the amount to find in accordance with the lease of the Aguas Blancas Railway Company, and making provision for income tax and a contribution of £10,000 to the staff benevolent fund, there remained a balance of £247,035 to be carried forward to the year 1942.

The loss on working the Bolivia Railway Company's lines was £67,856, or some £30,000 more than in 1940. In accordance with the terms of the lease the company had to pay a rental equivalent to 40 per cent. of the gross receipts of the leased lines but under existing conditions it was not practicable to pay that rental and still leave a profit on operation. On the other hand, the rentals were applied in paying interest on the Bolivia Railway Company's bonds, and the interest received on the holding of those bonds was some £24,000 more than in 1940.

As to the future, with so many uncertain factors involved no reliable forecast of traffic prospects for the current year's operation could be made, but to date the traffic receipts were £74,420 more than for the corresponding period of 1941.

The report and accounts were adopted.

Beyer, Peacock & Co. Ltd.

The annual general meeting of Beyer, Peacock & Co. Ltd., was held at the Grosvenor Hotel, Buckingham Palace Road, London, S.W.1, on June 30. Captain Hugh Vivian, M.I.Mech.E., Chairman of the company, presided.

The Chairman in the course of his review of the balance sheet and the company's affairs, circulated with the report and accounts, said that additions amounted to £14,199, and the sales and dismantlements to £9,047. The value of work in progress, stocks of stores and materials at £581,246, was over £190,000 higher than the amount for 1940. The reserve for depreciation showed a net increase of £3,300 compared with the amount for 1940 and an amount of £13,500 had been charged against trading before arriving at the profit for the year. The cost of renewals and dismantlements written off was £10,205. In addition, the accounts had been charged with amounts expended during the year on repairs and maintenance of the company's plant, machinery, and equipment wherever necessary and posible. An allocation had also been made to a reserve for deferred maintenance to provide funds to meet the cost of repairs to items of machinery and plant which of necessity had been postponed in present circumstances. The net profit at £51,283 showed a slight reduction against the amount for last year. Out of the balance of £99,571 brought forward from 1940, preference dividends representing three half-years to June 30, 1933, were paid in January and July of last year. A further two half-years' dividend in respect of arrears to June 30, 1934, was paid on January 21, 1942.

The accounts included a reserve for the company's E.P.T. liability in respect of the period from April 1, 1939, to December 31, 1941. The best possible profit standard which could be arrived at under the statutory formula was a mere fraction of what could be reasonably expected in a year of normal activity. During the standard years the locomotive industry had been emerging from a trade depression and was only beginning to derive some benefit from the upward trend in the demand for locomotives. It followed, therefore, that the effects of this taxation placed on the locomotive industry generally, and on the company in particular, a burden which was both harsh and unfair. Representations were still being made in the appropriate quarter for a substituted profit standard, and it was hoped in the near future to agree with the Inland Revenue authorities the basis on which computations and assessments should be built.

Shareholders would appreciate that reference to the company's products had necessarily to be limited—but he could tell them that the company had made, and was making, an important contribution to the general demand for locomotives which had now become so vital at home and overseas. Reports, recently received, provided evidence of the high performance, under the stress of war conditions, of locomotives manufactured by the company, and in particular of its speciality—the " Beyer-Garratt " locomotive—with its great hauling capacity.

Today, more than ever, adequate transportation was essential, and railways were being strained to their utmost capacity. Many hitherto little-known railways equipped for small peace-time traffics, had had demands thrust on them, never envisaged, calling for the maximum possible locomotive performance in tonnage hauled and mileage between repairs.

They could, therefore, recall with pride that this company, in the years immediately preceding the war, devoted considerable study to the problem of the development of the Beyer-Garratt engine to provide the highest tractive power possible for severe conditions of grade and curvature, and limiting factors of track and gauge. The result had been that Beyer-Garratt locomotives were today the most powerful engines ever placed in service on a large number of railways. It is gratifying to be able to say that under these trying and abnormal conditions of operating, the latest Beyer-Garratt engines, of the 4-8-4 + 4-8-4 and 4-6-4 + 4-6-4 types, completed at the outbreak of the war, had not only hauled almost double the load of the comparable ordinary engine, but had set up new records as to performance and mileage between repairs. The 4-8-4 + 4-8-4 was the first Beyer-Garratt of this type, and the largest locomotive in the world for the metre gauge ever built—twelve engines were supplied. These locomotives operated on a 50-lb. rail line, rising to 9,000 ft. with severe conditions of grade and curvature. Hauling exceptional loads with absolute regularity, 100,000 miles was being obtained from each locomotive to the first heavy repair, despite the abnormal conditions, and many of the engines had run an annual mileage exceeding 70,000, the twelve engines had run a total annual mileage, including stoppage for repairs, of over 700,000. The 100,000 miles between shoppings had also been achieved without the necessity of stopping the engines for the turning up of either bogie or coupled-wheel tyres.

The 4-6-4 + 4-6-4 Beyer-Garratts had averaged 115,000 miles before the turning of tyres had become necessary, and then only bogie wheels had been found to require truing up, after which the engines had been returned for further service. Tyre turning

required the stoppage of the engine for several days, so that these mileages, which represented a 40 per cent. to 50 per cent. increase over those obtained from the conventional type of engine under similar conditions, were of paramount importance with the existing scarcity of engine power. Certain groups of these engines had averaged 6,000 miles a month for eighteen consecutive months, and the availability as to demand was practically 100 per cent.

These results provided excellent testimony to the efficient performance, endurance, and economy of the company's locomotives, and justified insistence on the most particular care being given to design and workmanship.

Our warmest thanks are due to those members of staff and workpeople, both at Gorton and Leiston, who have, in addition to their normal duties, undertaken with enthusiasm, a full share of the work connected with A.R.P. organisations, Home Guard, and similar security activities.

The year under review inevitably had been associated with many difficulties, and he was grateful to his colleagues for their guidance and support. He particularly mentioned Mr. Wilmot, whose organising ability and unfailing energy had been outstanding, and Mr. Jackson and Mr. Williams, who had made an equally effective contribution in their particular spheres; Mr. Dawes, the Secretary, had once again given invaluable assistance. This leadership had been admirably supported by officials, staff, and workpeople.

The report and accounts were adopted.

CITY OF BUENOS AIRES TRANSPORT CORPORATION.—The third annual report, for the year to December 31, 1941, shows a deficit of 12,353,785 pesos, compared with an adjusted deficit of 10,572,531 pesos for 1940. Some operating results, in thousands of pesos, are compared in the accompanying table :—

	1940		1941	
	Income	Net receipts	Income	Net receipts
Underground	10,997	2,939	11,632	3,564
Tramways ...	37,738	Dr. 11,821	36,503	Dr. 11,395
Buses ...	9,383	Dr. 4,865	9,873	Dr. 4,851
Miscellaneous	306	306	328	328
	58,424	Dr. 13,441	58,336	Dr. 12,354

The operating loss of 13,441,000 pesos in 1940 has been reduced to 10,572,331 by reason of the corporation having concluded during 1941 more favourable contracts for the supply of electrical current. This saving is also allowed for in the 1941 figures. Following on the conclusion of negotiations for a loan of 40,000,000 pesos, the corporation took over further omnibus companies, and the directors have approved a new plan for reorganising services and readjusting tariffs.

Australasian Railway Statistics

The annual report on the working of the Queensland Government Railways for the year ended June 30, 1941, contains a table in which are summarised the principal operating figures and statistics for each of the Government railway systems of the Australian States and of New Zealand.

The considerable variations which occur in the various territories will be noted from the table, which is reproduced in full hereunder. The percentage of working expenses to earnings, for example, ranges from 73·92 in New South Wales to 87·16 in South Australia, and earnings per average mile open vary between the £815 returned for Western Australia to the £3,789 of New South Wales. Working expenses per average mile open similarly are from £629·47 in Western Australia to £2,801·03 in New South Wales.

The largest area served is in Western Australia, 975,920 sq. miles, but the greatest population is in New South Wales, 2,800,000 persons. Queensland has the longest mileage open, 6,497, and South Australia the shortest, 2,557.

COMPARATIVE ANALYSIS OF RAILWAY ACCOUNTS IN THE STATES OF QUEENSLAND (EXCLUDING UNIFORM GAUGE RAILWAY), NEW SOUTH WALES, VICTORIA, SOUTH AUSTRALIA, WESTERN AUSTRALIA, AND THE DOMINION OF NEW ZEALAND

Particulars	Queensland Year ended June 30, 1941 *	New South Wales Year ended June 30, 1941	Victoria Year ended June 30, 1941	South Australia Year ended June 30, 1941	Western Australia Year ended June 30, 1941	New Zealand Year ended March 31, 1941
Area in square miles	670,500	309,432	87,884	380,070	975,920	104,015
Population	1,037,600	2,800,000	1,918,660	600,000	468,700	1,635,715
Miles open	6,497	6,127	4,759	2,557½	4,381	3,390
Gauge	3 ft. 6 in. and 2 ft. 0 in.	4 ft. 8½ in.	5 ft. 3 in. and 2 ft. 6 in.	5 ft. 3 in. and 3 ft. 6 in.	3 ft. 6 in.	3 ft. 6 in.
Capital (opened lines)	£39,777,812	£149,575,526	†£52,312,475	£28,920,290	£26,794,380	£64,762,794
Average cost per mile	£6,122	£24,422	£10,992	£11,308	£6,116	£19,104
Population per mile of railway	160	457	403	235	107	483
Cost per head of population	£38 6s. 9d.	£53 8s. 5d.	£27 5s. 4d.	£48 4s. 0d.	£57 3s. 5d.	£39 11s. 10d.
Gross earnings	£8,196,018	£23,215,610	£11,239,423	£3,530,166	£3,571,828	£11,160,218
Working expenses	£6,568,732	£17,161,924	£8,958,936	£2,957,013	£2,757,891	£9,465,574
Profit on working	£1,627,286	£6,053,686	£2,280,487	£573,153	£813,937	£1,694,644
Percentage of net earnings to capital (opened lines)	£4 1s. 9¾d.	£4 0s. 11d.	£4 7s. 2d.	£ 110s. 10d.	£3 0s. 9d.	£2 12s. 10d.
Percentage of working expenses to earnings—						
Maintenance	21·23	20·35	13·50	14·61	16·91	18·13
Locomotive	35·39	29·35	27·89	41·06	35·44	42·16
Traffic	22·23	19·48	25·38	24·14	20·85	23·96
General	1·30	4·74	12·94	7·35	4·01	2·47
Total	80·15	73·92	79·71	87·16	77·21	86·72
Earnings per average mile open	£1,261	£3,789	£2,362	£1,380	£815	£2,850
Working expenses per average mile open—	£	£	£	£	£	£
Maintenance	267·73	771·18	318·80	201·65	137·85	518·54
Locomotive	446·36	1,112·04	658·80	566·77	288·93	1,205·88
Traffic	280·41	738·19	599·40	333·42	170·02	685·10
General	16·41	179·62	305·52	101·29	32·67	70·36
Total	£1,010·81	£2,801·03	£1,882·52	£1,203·13	£629·47	£2,479·88
Earnings per train mile —	s. d. 11 4	s. d. 14 4½	s. d. 12 7½	s. d. 11 11½	s. d. 11 4½	s. d. 14 3½
Working expenses per train mile—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Maintenance	2 4½	2 11	1 8½	1 9	1 11	2 7
Locomotive	4 0½	4 2½	3 6½	4 11	4 0½	6 0½
Traffic	2 6½	2 9½	3 2½	2 10½	2 4½	3 5
General	0 1½	0 8¼	1 7½	0 10½	0 5½	0 4½
Total	9 1	10 7½	10 1	10 5½	8 9½	12 4½
Earnings per engine	£10,658	£18,967	£15,503	£10,697	£8,648	£15,195
Earnings per carriage (coaching)	£1,474	£2,982	£3,127	£1,546	£1,856	£1,498
Earnings per wagon (goods and live stock)	£320	£544	£247	£302	£242	£228
Earnings per head of population	£7 18s. 0d.	£8 5s. 10d.	£5 17s. 2d.	£5 17s. 8d.	£7 12s. 5d.	£6 16s. 5d.
Number of passenger journeys	26,059,005	194,145,738	159,218,412	20,360,011	11,518,216	26,276,923
Goods tonnage	4,942,615	17,265,122	5,881,921	2,584,877	2,484,917	7,754,768
Live stock tonnage	565,551	766,489	740,864	185,497	118,940	671,414
Average number of passengers per average mile of railway	4,010	31,687	33,456	7,961	2,629	7,751
Train mileage	14,466,291	32,285,300	17,766,987	5,892,240	6,277,745	13,559,646
Train miles per average mile of railway open	2,226	5,269	3,733	2,304	1,433	4,000

* Exclusive of Uniform Gauge Railway.
† Capital reduced by £25,564,189. Railway (Finance Adjustment) Act, 1936.

L.M.S.R. Mobile Salvage Exhibition

To assist the national drive for salvage, the L.M.S.R. has prepared a Mobile Salvage Exhibition which on June 26 set out from Euston on a 10,000 miles tour of the system. The object of the exhibition is to stimulate the salvage effort amongst the 230,000 L.M.S.R. staff. The coach will be exhibited at passenger stations and the public will be admitted.

The 34 year-old railway coach in which the display is housed forms part of the exhibition. It was damaged in an air raid and was scheduled for breaking-up, but was "salvaged" for the exhibition. All the materials used in the exhibition are salvaged materials. The walls are lined with balloon fabric, salvaged from balloons, and loaned by the Air Ministry. The cast-iron letters forming the slogans displayed in the coach were originally used as station names but were removed by Government order in 1940.

From the exhibition L.M.S.R. railwaymen and the public will find the answer to the question, "Why is salvage necessary?" The exhibits have come from all over the L.M.S.R. system; some of them are shown in ordinary jam jars collected from the railway's own bottle-sorting depot. Dominating the display are two photographs, one of a bomber and the other of a train load of tanks. By means of arrows, visitors are shown exactly where their salvage is used in these two vital war machines. They can see how powder obtained from old boots is used for hardening steel, and ammonia from the same source is used in fertilisers. From bones can be obtained fats (including nitro-glycerine), glues, and bonemeal. Other exhibits show how tracing paper used for drawing plans and maps, is turned into bandages and the many war uses to which wastepaper can be put. Exhibits, photographs, and diagrams show the many ways in which the L.M.S.R. is using scrap material to conserve supplies of raw materials.

On the opening of the mobile salvage exhibition at Euston Station on June 25, the L.M.S.R. received the following personal message to L.M.S.R. from Sir Andrew Duncan, Minister of Supply:—

"This Salvage Exhibition Coach is a new departure in bringing home to the nation the part which every man and woman can play in saving raw material. I wish every success to its mission on its journeys throughout the country."

Sir Thomas Royden, Chairman, L.M.S.R., sent the following message to the staff:—

"By means of your salvage drive no scrap of material need be wasted. You have already achieved wonderful results and this exhibition shows you the things to salve and in what way they help the nation. Do your best to improve upon your salvage effort and so help directly all the fighting forces of the Empire."

The latest salvage figures show that L.M.S.R. men and women have collected 9,494 tons of metal, 7,999 tons of paper, 1,281 tons of rope, sacking and rag, 1,941 tons of timber, 380 tons of straw, 508 tons of bricks, 24 tons of rubber, and 470,626 bottles. In addition, very large quantities of metal, timber, and textiles are reclaimed and used again in L.M.S.R. works.

Among those who accepted invitations to see the exhibition coach were Lord Ashfield, Chairman, London Passenger Transport Board); Mr. H. G. Judd (Controller of Salvage); Major Montague (Inspector of Army Salvage); Mr. H. Cooper Thompson (Assistant Director, Tank Supplies); Mr. G. M. Carter (Director of Demolition & Recovery); and Mr. S. T. Garland (Wastepaper Recovery Association Limited).

The coach was prepared at the Wolverton Works of the L.M.S.R. to the design of the Advertising & Publicity Department. The Ministries of Air, Aircraft Production, Supply, and Information; the Wastepaper Recovery Association, and a number of private firms have co-operated in the preparation of the exhibition.

Questions in Parliament

Below are summarised Answers to Questions in Parliament affecting transport. The Minister concerned and the date of the Answer are given in parentheses

Transport Services

Early in the war the Government decided that the licensing procedure under the Road Traffic Act, 1930, was not suitable to wartime needs and conditions and the frequent and rapid adjustments which these needs and conditions entail. Under Defence Regulations the licensing system was therefore temporarily suspended by the Regional Transport Commissioners, and it was laid down that permits should be issued instead. It would not be practicable or desirable to restore the peacetime procedure in present circumstances, but the commissioners give the most careful consideration to any representations made by local authorities about the services in their respective Regions. (Mr. P. J. Noel-Baker, Joint Parliamentary Secretary, Ministry of War Transport, June 23.)

Methane

The use of methane from sewage works has been carefully examined since the outbreak of war, but I am advised that it would not be in the national interest to give publicly information as to what methods have been adopted to convert to proper use the net daily surplus of sludge gas up to 150,000 cu. ft. produced by the sludge-digestion plant at the place of which I have been informed; as to how many gallons of petrol this fuel when compressed was equal; statistics of local authorities or sewage boards now operating sludge digestion plants; as how much sludge gas was being produced, used or wasted; and how many have not devised ways or means of utilising all their output of sludge gas. (Major G. Lloyd George, Minister of Fuel & Power, June 23.)

Railway Facilities

I have asked the railway authorities to consider whether it is possible to retime the 11.5 a.m. train from Workington to give a greater margin at Barrow for connection with the 1.35 p.m. train from Barrow to Euston. (Mr. P. J. Noel-Baker, June 24.)

Motorbuses

The seating in 95 single-deck buses in the West and East Ridings of Yorkshire has been re-arranged to permit the carriage in each vehicle of between 20 and 30 standing passengers. This conversion has been effected in response to an appeal made by the Minister of War Transport to operators of bus services throughout the country. The Minister of War Transport has asked operators to convert as many single-deck vehicles as possible which are working on appropriate routes, provided they are mechanically fit. In selecting routes and vehicles, Regional Transport Commissioners keep in close touch with the local officers of the Transport & General Workers' Union, whose co-operation has been most helpful. (Mr. P. J. Noel-Baker, June 24.)

Journeys of Service Personnel

I am well aware that many long-distance trains are unduly crowded and that Service personnel constitute a large proportion of the passengers. There is close contact between my Department and the Service Departments, with which the position is constantly reviewed, to eliminate avoidable travel. (Mr. P. J. Noel-Baker. June 24.)

Parliamentary Notes

London Passenger Transport Board Bill

In the House of Lords on June 24 the London Passenger Transport Board Bill was given a Second Reading.

Staff and Labour Matters

A.E.U. Annual Conference

The annual conference of the A.E.U., which was held at Blackpool this year, commenced on June 15 and the resolutions adopted by the conference included—an immediate application for an advance of 11s. a week on the basic rate, 33⅓ per cent. advance to all plain timeworkers, levelling of base rates, and restoration of pre-June, 1931, working conditions.

Direct representation on manpower boards, consultations with shop stewards on questions of call up and notification to men as to whether an employer was or was not applying for their deferment, and equal pay for men and women for equal work, were also the subject of resolutions.

Hotel & Refreshment Room Staff

The principle of Railway Staff National Tribunal Decision No. 8 has been extended, by agreement between the railway companies and the National Union of Railwaymen, to non-tip earning staff employed in railway-owned hotels and refreshment rooms and male staff will receive increases ranging from 4s. 6d. a week in the case of those whose composite war wage, including value of board and lodgings, does not exceed 61s. a week, to 1s. a week in the case of those with a composite war wage between 67s. 6d. and 70s. a week. In the case of the female staff the increases range from 3s. 3d. a week for those with composite war wages not exceeding 46s. to 1s. for those with composite war wages between 50s. and 55s. a week.

Restaurant Car Staff

The war wages of restaurant car travelling staff have been increased as under:—

Adults	Male	... ...	3s. 3d.
	Female	... ...	2s. 3d.
Juniors	Male	... ...	1s. 6d.
	Female	... ...	1s.

This brings the total war additions for this section of railway employees to 11s. 6d. for adult males, 8s. for adult females, 5s. 9d. for junior males, and 4s. for junior females.

Notes and News

Beyer, Peacock & Co. Ltd.—A year's dividend on the 5½ per cent. cumulative preference shares is to be paid for the period to June 30, 1935. Payment for the year to June 30, 1934, was made in January this year.

Scottish Motor Traction Capital.—The proposals for the return of 5s. per £1 of ordinary stock and the subsequent increase in the nominal capital to its former amount were passed unanimously at the extraordinary general meetings of the company and of the preference stockholders, held in Edinburgh on June 17.

Length of Swedish State Railways.—The incorporation of about 20 privately-owned railways into the Swedish State Railways since 1939 had increased the route mileage of the latter to 10,346 km. (6,429 miles) by January 1, 1942. The electrified mileage on March 1, 1942, was 4,242 km. (2,636 miles).

Vickers-Armstrongs Limited.—It is proposed that the following companies, namely, the Whitehead Torpedo Co. Ltd., the Thames Ammunition Works Limited, and the Variable Speed Gear Limited, shall be merged in Vickers-Armstrongs Limited in order to co-ordinate more closely their activities. All these companies are wholly-owned subsidiaries of Vickers-Armstrongs Limited.

Spanish Branch Line Re-opened.—The formerly steam-operated Calahorra-Amedo narrow-gauge line, which had been derelict since 1935, was re-opened to traffic last April. It is being operated, with electric traction, by the State. Calahorra is about 135 miles from Bilbao, on the Bilbao-Zaragoza main line, and the Amedo branch leads in a southerly direction through a district which produces cereals, sugar beet, and wine.

Great Southern Railways (Eire).—For the 24th week of 1942 the Great Southern Railways (Eire) report passenger receipts of £38,882 (against £41,083), and goods receipts of £56,919 (against £44,894) making a total of £95,801 (against £85,977) for the corresponding period of the previous year. The aggregate receipts to date are passenger, £787,184 (against £875,875), goods, £1,429,273 (against £1,202,548), making a total of £2,216,457 (against £2,078,423)

Pacific Great Eastern Railway Company.—The Government of the Province of British Columbia announces that the necessary funds for the redemption in sterling at £100 per cent. of that portion of the Pacific Great Eastern Railway Company's first mortgage 4½ per cent. guaranteed debenture stock, 1942, which is registered at the London Counting house of Brown, Shipley & Co., will be provided by the due date, July 15, 1942. The amount of this stock now quoted on the London Stock Exchange is £2,875,000.

Canadian National Railways.—Gross earnings during May last were $29,687,000, an increase of $2,961,230 over May, 1941, and operating expenses were $21,917,300, an advance of $2,980,379, leaving net earnings $19,149 lower, at $7,769,691. Aggregate gross earnings for the five months from January 1, 1942, were $137,626,000, an increase of $16,759,683, as compared with the similar period of 1941, and the net earnings of $30,072,950, showed an improvement of $4,793,181.

German Wagon Building Industry.—Waggonfabrik L. Steinfurt A.G., of Königsberg, is to increase its share capital from R.M. 2,400,000 to R.M. 3,000,000, and a dividend of 4·8 per cent. is to be paid on the new capital, retrospectively, for 1941, as compared with 6 per cent. in 1940 on the former capital.

Ferrovie Nord Milano.—This company, which is the second-largest privately-owned railway in Italy, and has a mileage of 166 (265 km.), of which 58 miles (93 km.) are electrified, returned in 1941 a net profit of 5,950,000 lire, compared with 5,610,000 lire in 1940. The same dividend (4 per cent.) was paid on the preference shares for 1941 as for the previous year; on the ordinary shares a dividend of 7 per cent. was paid. The company's share capital is 71,800,000 lire.

Spanish Aeroplane Industry.—In connection with the recent reorganisation of the Spanish aeroplane industry, controlled and developed by the State, the following have been classified officially as "aeroplane works": Sociedad Anónima Aeronautica Industrial (aircraft construction); Sociedad Anónima Construcciones Aeronauticas; Sociedad Anónima Elizalde (aeroplane engines); Sociedad Anónima Hispano-Suiza (aeroplanes, engines, and armaments); Indústrias Subsidiarias de Aviación (aeroplane equipment); Sociedad Anónima Marconi Española (navigational apparatus, and electrical and wireless equipment); and Sociedad Anónima Sampere (parachutes, and fabric for wing covers).

Buenos Ayres & Pacific Group Stocks.—Under the scheme of arrangement sanctioned by the High Court on October 20, 1941, the Stockholders' Committee has extended the moratorium period from June 30, 1942, to June 30, 1943, in respect of the interest payable on the 4½ per cent. consolidated debenture stock and on the 5 per cent. (1912) debenture stock of the Buenos Ayres & Pacific Railway Co. Ltd.; on the 5 per cent. debenture stock and on the 6 per cent. guaranteed preference stock of the Argentine Great Western Railway Co. Ltd.; and on the 4½ per cent. guaranteed stock of the Villa Maria & Rufino Railway Co. Ltd. It is now notified that payment is to be made on August 26 next of a half-year's arrears of interest to July, 1937, on the Pacific Company's 4½ per cent. consolidated debenture stock, and of a half-year's arrears of interest to October, 1937, on the Great Western Company's 5 per cent. debenture stock.

Institution of Railway Signal Engineers.—An informal dinner and dance, attended by about 50 members and ladies, was held at the Holborn Restaurant, London, on June 19. The President, Mr. James Boot, occupied the Chair, supported by the Vice-President, Mr. R. F. Morkill, several Past Presidents, and members of Council. Mr. Boot, in a brief speech, referred to the effects of the war on the work of the institution and expressed the hope that it would prove possible to resume more normal activities before long. The council had already arranged a meeting for the discussion of certain points raised in his Presidential Address delivered in March. This meeting duly took place at the Institution of Electrical Engineers on June 24. Mr. Boot again presided and an interesting discussion took place on indication locking, the various methods of locking levers fitted with track control and of operating such levers, as well as proposals for reducing the number of line wires or cores in cables used for signalling purposes.

British Timken Limited.—The net profit for 1941, before providing for taxation, was £108,924, against £114,000 for 1940. The allocation to taxation reserve is £60,000 (£65,000) and to contingencies reserve is £20,000 (same). The dividend for the year on the 400,000 ordinary shares is again 15 per cent., less tax, and the amount carried forward is £24,634 (£25,710). Mr. John Pascoe, the Deputy-Chairman, presiding at the recent annual general meeting, said that the balance sheet clearly reflected

British and Irish Railway Stocks and Shares

Stocks	Highest 1941	Lowest 1941	Prices June 26, 1942	Prices Rise/Fall
G.W.R.				
Cons. Ord.	43⅜	30⅜	44½	– 1
5% Con. Pref. ...	109½	83½	107	– ½
5% Red. Pref. (1950)	105⅝	96⅛	106	—
4% Deb.	113½	102½	107	– 1½
4½% Deb.	115	105⅜	109⅛	– 2
4½% Deb.	121½	112	116⅛	– 1
5% Deb.	132	122	128½	– 1½
2½% Deb.	70	62⅜	74½	+ 1½
5% Rt. Charge ...	129½	116	127½	– 2
5% Cons. Guar. ...	128	110½	123½	– 2½
L.M.S.R.				
Ord.	17½	11	19½	– ½
4% Pref. (1923) ...	53	33½	53	– 1
4% Pref.	68½	48½	69	– 2
5% Red. Pref. (1955)	97⅛	77	99½	—
4% Deb.	105⅛	97	102	– 1
5% Red. Deb. (1952)	110½	106½	109⅛	—
4% Guar.	100	85⅛	99	– 1½
L.N.E.R.				
5% Pref. Ord. ...	3⅛	2⅛	3⅛	—
Def. Ord.	2	1⅛	1⅛	—
4% First Pref. ...	52½	33	52	—
4% Second Pref. ...	19⅛	10	21⅛	—
5% Red. Pref. (1955)	79½	52	88	– 1
4% First Guar. ...	90½	74½	93	—
4% Second Guar. ...	80½	59	83	—
3% Deb.	79⅛	68⅜	78	—
4% Deb.	104	91½	101½	—
5% Red. Deb. (1947)	106	102½	104½	+ ½
4½% Sinking Fund Red. Deb.	103½	99½	103½	+ ½
SOUTHERN				
Pref. Ord.	65½	43½	63	– 1½
Def. Ord.	15⅛	9	16½	—
5% Pref.	107	77½	106	—
5% Red. Pref. (1964)	107	89½	108½	—
5% Guar. Pref. ...	128	111	124½	– 1
5% Red. Guar. Pref. (1957)	114⅛	107½	111½	—
4% Deb.	112	102⅛	105½	– 1
5% Deb.	130½	119	127½	– ½
4% Red. Deb. (1962–67)	108½	102	108½	—
4% Red. Deb. (1970–80)	108⅛	102½	108½	—
FORTH BRIDGE				
4% Deb.	99⅛	90½	107	—
4% Guar.	99	85½	103½	—
L.P.T.B.				
4½% "A"	120½	109½	113½	– 2
5% "A"	130½	115½	124½	– 1
4½% "T.F.A." ...	103½	99½	100	—
5% "B"	117	102	112½	– 1
"C"	46⅛	28⅛	41	—
MERSEY				
Ord.	24⅛	19½	22	+ ½
4% Perp. Deb. ...	100	90	100	—
3% Perp. Deb. ...	73½	63	78	—
3% Perp. Pref. ...	58	51½	58	—
IRELAND				
BELFAST & C.D.				
Ord.	4	4	9	—
G. NORTHERN				
Ord.	14½	3	21	+ 1½
G. SOUTHERN				
Ord.	14½	5	21	—
Pref.	17	10	17	—
Guar.	44	16	36½	—
Deb.	61	42	61	—

§ ex dividend

OFFICIAL NOTICES

OVERSEAS EMPLOYMENT: Applications for the undermentioned appointments in the service of the Government Railways, West Africa, are invited:

(1) *Senior Storekeeper.*—Extensive experience as a Storekeeper on British or Colonial Railway and association with mechanical and civil engineering stores including permanent way material. Salary £750 rising to £810.

(2) *Assistant Stores Superintendent.*—Experience in the Stores Department of a British or Colonial Railway and familiarity with mechanical and civil engineering stores. Salary between £475 and £720 according to experience.

(3) *Assistant Traffic Superintendent.*—Sound practical experience in goods and passenger station works and accounts and preferably also in the commercial and operating departments. Salary between £475 and £840 according to experience.

General Conditions.—One tour of 12 to 24 months or duration of war whichever is the shorter period. Free passages and free quarters. Separation allowance for married men whose salary is less than £600 per annum.

Applications in writing, giving full details of training and experience and name of present employers, should be made to The Secretary, Overseas Manpower Committee (Ref. 282 (*d*)), Ministry of Labour and National Service, Hanway House, Red Lion Square, London, W.C.1.

GOVERNMENT SERVICE: Applications are invited from physically fit men for posts at home or abroad as may be necessary, as shown below. Candidates must have had good general education, appropriate experience and be capable of taking charge of work involving the supervision of personnel. Remuneration will be appropriate to the post for which accepted.

*Q.*1916*R.*—Experience of large scale excavation by mechanical means on roads, railways, docks and public works. Ages between 30 and 40 years.

*Q.*1917*R.*—Experience of actual construction of docks and wharves in tidal waters and bridge construction. Ages between 30 and 45 years.

*Q.*1918*R.*—Dock Operation—actual outside experience including stevedoring, loading and discharging general cargo ships, cargo handling gear and crane operating or general knowledge of the subject and actual experience of sail or power boats in tidal waters. Ages 30 to 45 years.

*Q.*1919*R.*—Practical outdoor experience of Railway Traffic Department, Railway Clearing House, Block and Emergency working, station depot yard working, signalling and traffic control, practical experience of motive power department, locomotive practice and rolling stock maintenance. Ages between 30 and 45 years.

*Q.*1920*R.*—Experience of Railway open line construction, maintenance road work, drainage and sewer work. Railway experience may be slight if other construction experience is considerable. Ages 30 to 45 years.

*Q.*1921*R.*—Experience of production in Railway workshop or in charge of a shop forming part of works. Ages 30 to 45 years.

*Q.*2023*R.*—Experience in supervision, erection and maintenance of buildings, roads, water service, sewage, site works, etc., either on contract or by direct labour. Knowledge of electrical and mechanical practice a desirable additional qualification. Ages between 45 and 57 years.

Written applications with full particulars of age and experience, together with the name and address of present employer (if any) and quoting the reference number of the post applied for to Box L.B., c/o Charles Barker & Sons, Ltd., 31, Budge Row, London, E.C.4.

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the greatly expanded scope of the company's operations, which had necessitated considerable assistance from its bankers, but the balance of current assets over current liabilities indicated that the essential strength of the company's financial position had been more than preserved.

Agreed Charges.—Fifty more applications for the approval of agreed charges under the provisions of Section 37 of the Road & Rail Traffic Act, 1933, have been lodged with the Railway Rates Tribunal. Notices of objection must be filed with the Registrar on or before July 17.

Road Accidents in May, 1942.—The return issued by the Minister of War Transport of the number of persons reported to have died, or to have been injured, as a result of road accidents in Great Britain during the month of May last shows 505 deaths (compared with 701 in May, 1941), 2,790 seriously injured (compared with 3,630 in May, 1941), and 8,398 slightly injured (compared with 11,686 in May, 1941).

Callender's Cable & Construction Co. Ltd.—Final ordinary dividend is 10 per cent., less tax, making 10 per cent. for the year 1941 (same), and the amount carried forward is £266,304. Profits were £406,873 (£428,774), and £377,518 was brought in. Reserve gets nil (£6,538), but reserve for equalisation of dividends or for war contingencies receives £200,000, against £125,000.

Scammell Lorries Limited.—Lt.-General Sir George Macdonogh in the course of his address at the ordinary general meeting said that the gross profit for the year was £263,177, an increase of nearly £57,000. After providing for general expenses, depreciation, etc., the trading profit was £172,872, compared with £116,644 for the previous year. Of the net profit earned the company was contributing in taxes no less than £147,500. In other words, it was retaining only about one-tenth of its profits. Difficulties must arise in industry after the war as a result of the excessive taxes, and he strongly urged that the Government should grant some reduction in E.P.T., which would enable firms to build up sufficient reserves. The directors recommended payment of a dividend of 7½ per cent., less tax, on the ordinary shares, a transfer to general reserve of £10,000, and to carry forward £15,037. At the close of the meeting a resolution authorising the directors to borrow without the sanction of the company in general meeting up to sums not exceeding in the whole £300,000 was carried unanimously.

Halifax Branch Canal Abandonment.—The Minister of War Transport, in pursuance of the powers conferred upon him by Section 45 of the Railway & Canal Traffic Act, 1888, made on June 2 a warrant of abandonment authorising the abandonment by the company of the Proprietors of the Calder & Hebble Navigation of the Halifax Branch Canal.

Another American Railway Air Transport Subsidiary.—The Gulf, Mobile & Ohio Railroad has sought the authority of the U.S.A. Civil Aeronautics Board to establish a subsidiary air transport company called Rebel Air Freight, Inc. The intention is to provide air services for freight throughout the territory served by the railway, based on a main route from Chicago to New Orleans.

North British Locomotive Co. Ltd.—The full report for the year shows that profits were £220,409, against £222,660. Taxation requires £120,000 and the sum of £50,000 goes to reserve fund, which received nothing a year ago. The amount to be carried forward is £59,296, against £93,262 brought in. As already announced, payment is being made of 4½ years' dividend arrears on the 5 per cent. cumulative preference stock, thus clearing off the balance of arrears up to December 31, 1941.

L.M.S.R. Fuel Economy "Wardens."—Voluntary fuel economy "wardens" are now being appointed in L.M.S.R. offices and depots, to strengthen the company's support of the national drive for fuel economy. The wardens, besides seeing that there is no wastage of fuel and light, will devise means to effect further economies. For instance, they will keep an eye on gas and electricity meters, reduce firegrate areas by placing loose bricks at back and sides, and see that doors are kept shut to minimise heat losses. Where possible, desks will be re-positioned to obtain more daylight.

Coal Nationalisation.—For many centuries coal has been in private hands, but on Wednesday last (July 1), the Coal Act, 1938, took effect, and all the coal seams in the country were vested in the Coal Commission, which has to pay the owners £66,450,000, apportioned among the different coal districts, and divisible among the coalowners in proportion to the respective values of their holding in the district. All royalty owners who are carrying on business as colliery proprietors are entitled to have a lease, or leases, of their own coal on such terms that their financial position is neither adversely affected nor improved by the fact that instead of remaining owners of their coal they become lessees of the Coal Commission.

Keith Blackman Limited.—The dividend for the year to March 31, 1942, is raised from 17½ per cent. to 20 per cent. After allowing £69,000 (£52,500) for taxation and £21,143 (£21,654) for A.R.P. the net profit is £58,752 against £38,414. A sum of £15,000 (nil) is placed to reserve and the amount carried forward is £46,525, against £38,773 brought in.

Chloride Electrical Storage Co. Ltd.—Net profits for the year to March 31, 1942, after providing £125,000 for taxation, amounted to £306,393 (£277,941). Allocations included £26,000 (£22,000) to employees' funds, £10,000 (same) to subsidiaries pension fund, and £75,000 (same) to general reserve. The final dividend of 5 per cent. on the "A" and "B" ordinary shares again makes 10 per cent. for the year, and the bonus of 5 per cent. is repeated, leaving £111,477 to be carried forward, against £83,104 brought in.

Contracts and Tenders

The Egyptian State Railways have placed an order with the North British Locomotive Co. Ltd., for 2 coupling rods, and 26 slide bars.

The following orders have been placed for the South Indian Railway to the inspection of Messrs. Wolfe Barry, Robert White & Partners:—

Superheater Co. Ltd.: 100 superheater elements, 14 heaters, 236 elements, 432 ball-end tubes

Rivet, Bolt & Nut Co. Ltd.: Approximately 6 tons of steel boiler rivets.

Thomas F. Johnson: Miscellaneous wood screws and pins.

The Brazilian Mixed Railroad Commission has purchased in the United States 4 service locomotives, 90 freight wagons, and 23,300 tons of steel rails at a cost of 40,000 contos (about $2,050,000). The equipment will be used in the construction of the railway which will ultimately connect Rio de Janeiro with La Paz, Bolivia. The line is expected to be completed in 1944. At the end of August, 81 kilometres had been finished and 400 kilometres graded, out of a total of 644 kilometres (400 miles).

Railway Stock Market

Although sentiment in the stock and share markets has continued to be dominated by adverse war developments, the undertone in most sections has remained fairly steady, selling having again been very moderate. Security values were only slightly lower in most directions, due to the very small demand in evidence, and markets generally again tended to be assisted by the relatively steady tone in British Funds. The information now recorded in the Stock Exchange Lists as to the number of bargains "marked" has indicated the decline in the volume of business as a result of the war news. In many instances, however, good class securities have continued to be in restricted supply owing to the small amount of selling, and as in the past, an adverse trend in the war news has had the effect of concentrating demand on high-grade stocks. Nevertheless, some prior-charge and kindred home railway stocks showed declines ranging up to a point on balance, prices having been marked down slightly owing to the reduced demand now ruling. In various cases, however, the prior charges have remained so firmly held that they are difficult to obtain in any amount at around prices indicated by current quotations. In some directions there has been a tendency for quotations to show recovery; Southern 4 per cent. debentures, which were 105½ a week ago, have rallied to 106 at the time of writing. Declines on balance in the junior stocks were mostly fractional. Although in the early part of last month there was increased demand on hopeful views as to the forthcoming interim dividend decisions, many holders regard these stocks as attractive because of the large yields, and the reasonable possibilities of dividends being maintained during the period of the war. As time proceeds, it would seem not improbable that there will be wider recognition of the fact that yields on the junior stocks are much in excess of those obtainable on most other groups of equity securities, and that the wartime dividend prospects of the latter are not clearly defined as in the case of the home railway junior stocks. The question of possible future air-raid damage, and the position in regard to Government controls and regulations after the war, are, of course, unknown factors in respect to transport, but they also cannot be assessed in regard to many other industries. Nevertheless, uncertainty as to the position after the war is a factor which continues to have an adverse effect on sentiment concerning railway junior stocks and is often given in explanation of the fact that the market values them on a much higher yield basis than in the case of shipping shares or those of leading road transport undertakings.

Compared with a week ago, Great Western ordinary stock has further declined from 45 to 44¼; the guaranteed stock lost a point to 123, and the 4 per cent. debentures were 106½ xd., compared with 107, but at the time of writing, the 5 per cent. preference stock has remained at 107. L.M.S.R. ordinary at 19⅛ was only slightly lower, having been 19⅜ a week ago. The 1923 preference lost half-a-point to 53, and the senior preference a point to 69. L.M.S.R. 4 per cent. debentures have moved back a point to 102 at the time of writing, and the guaranteed stock was fractionally lower at 99. Among L.N.E.R. issues, there was a little speculative buying of the second preference, awaiting the interim dividend decision, and the price improved on balance from 21½ to 21¾. L.N.E.R. first preference was 52, as compared with 52½ a week ago, while the second guaranteed lost a point to 83, although the first guaranteed was unchanged on balance at 93. There was further selling of Southern preferred, which was 63½ a week ago, and has reacted to 62⅜ at the time of writing. Southern deferred, however, was fractionally better at 16⅛. London Transport "C" was easier at 40½. Among Argentine railway issues lower prices again ruled in accordance with the general tendency, but there was no heavy selling. Elsewhere Antofagasta preference, however, declined from 40 to 37, and San Paulo from 53 to 50. A slightly lower price ruled for Canadian Pacific.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open 1941-42	Week Ending	Traffic for Week: Total this year	Traffic for Week: Inc. or Dec. compared with 1941	No. of Weeks	Aggregate Traffics to date: Totals: This Year	Aggregate Traffics to date: Totals: Last Year	Aggregate Traffics to date: Increase or Decrease	Shares or Stock	Prices: Highest 1941	Prices: Lowest 1941	Prices: June 26, 1942	Yield% (See Notes)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	21.6.42	23,420	+ 5,880	25	528,170	444,030	+ 84,140	Ord. Stk.	10⅜	3½	8¼	Nil
	Argentine North Eastern	753	20.6.42	ps. 235,900	+ ps. 30,900	51	ps. 9,337,800	ps. 7,419,800	+ ps.1,918,000	,,	4	1	5	Nil
	Bolivar	174	May,1942	4,605	+ 405	21	23,063	19,132	+ 3,931	6 p.c. Deb.	5	5	10	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	8	2½	13½	Nil
	Buenos Ayres & Pacific	2,801	20.6.42	ps. 1,435,000	— ps.175,000	51	ps. 74,781,000	ps.73,648,000	+ ps.1,133,000	Ord. Stk.	7¾	1½	4¾	Nil
	Buenos Ayres Great Southern	5,080	20.6.42	ps. 2,007,000	— ps. 56,000	51	ps.123,878,000	ps.113,322,000	+ ps.10,556,000	Ord. Stk.	10¾	3½	8½	Nil
	Buenos Ayres Western	1,930	20.6.42	ps. 891,000	+ ps. 80,000	51	ps. 44,142,000	ps.40,508,000	+ ps.3,634,000	,,	9	2½	6½	Nil
	Central Argentine	3,700	20.6.42	ps. 1,912,150	+ ps.137,400	51	ps. 89,893,950	ps.84,065,900	+ ps.5,828,050	,,	8½	2¼	5¾	Nil
	Do	—	—	—	—	—	—	—	—	Dfd.	2½	½	3½	Nil
	Cent. Uruguay of M. Video	972	20.6.42	23,462	— 4,541	51	1,308,208	1,208,703	+ 99,502	Ord. Stk.	9½	1	5	Nil
	Costa Rica	262	May, 1942	15,651	— 3,810	46	228,220	218,358	+ 9,862	Stk.	15½	11½	13	Nil
	Dorada	70	May, 1942	15,882	+ 2,982	21	63,546	62,100	+ 1,446	1 Mt. Db.	97	97	88½§	£4
	Entre Rios	808	20.6.42	ps. 294,300	+ ps. 32,000	13	ps. 13,277,800	ps.10,897,600	+ ps.2,380,200	Ord. Stk.	6½	¼	6	Nil
	Great Western of Brazil	1,030	20.6.42	8,900	+ 2,000	25	247,600	235,900	+ 11,700	Ord. Sh.	11/-	1/-	¾	Nil
	International of Cl. Amer.	794	Apr.,1942	$100,091	— $36,249	16	$613,915	$429,516	+ $184,399	—	—	—	—	—
	Interoceanic of Mexico	—	—	—	—	—	—	—	—	1st Pref	⅜	6d.	½	Nil
	La Guaira & Caracas	22¾	May,1942	5,965	+ 730	21	32,133	30,145	+ 1,988	—	—	—	—	—
	Leopoldina	1,918	20.6.42	30,515	+ 4,377	25	727,616	586,959	+ 140,657	Ord. Stk.	4	¾	4¾	Nil
	Mexican	483	21.6.42	ps. 300,400	— ps. 8,100	25	ps. 8,325,700	ps. 7,788,000	+ ps. 537,700	,,	⅜	¾	½	Nil
	Midland of Uruguay	319	Apr.,1942	13,856	+ 1,640	41	136,984	120,202	+ 16,782	—	—	—	—	—
	Nitrate	386	15.6.42	7,858	+ 3,807	23	71,624	47,008	+ 24,616	Ord Sh.	66¾	1½	3¾	3⅞
	Paraguay Caneal	274	13.6.42	$3,066,000	— $706,000	50	$177,932,000	$167,486,000	+ $10,446,000	Pr. Lt. Stk.	43/-	29	45½	13⅛
	Peruvian Corporation	1,059	May, 1942	81,005	+ 17,967	47	833,448	709,504	+ 123,944	Pref.	6½	1⅛	11½	Nil
	Salvador	100	Apr., 1942	c 71,000	+ c 5,000	41	c 853,172	c 683,683	+ c 169,489	—	—	—	—	—
	San Paulo	153½	14.6.42	38,879	— 4,609	24	844,046	880,503	— 36,457	Ord. Stk.	52	24½	50	4
	Taltal	160	May,1942	5,490	+ 2,395	23	49,710	30,545	+ 19,165	Ord. Sh.	1	6/-	1⅛	Nil
	United of Havana	1,346	20.6.42	58,465	+ 35,305	51	1,646,194	1,233,781	+ 412,413	Ord. Stk.	2½	½	3	Nil
	Uruguay Northern	73	Apr.,1942	980	— 41	41	12,070	11,329	+ 741	—	—	—	—	—
Canada	Canadian National	23,562	21.6.42	1,438,400	+ 236,800	25	31,811,400	26,774,400	+ 5,037,000	—	—	—	—	—
	Canadian Pacific	17,139	21.6.42	963,600	+ 122,800	25	22,791,600	18,786,200	+ 4,005,400	Ord. Stk.	13⅜	7⅛	10	Nil
India†	Barsi Light	202	Mar.,1942	15,570	— 390	52	165,217	167,280	— 2,063	—	—	—	—	—
	Bengal & North Western	2,090	May, 1942	281,550	+ 6,732	8	555,000	555,860	— 860	Ord. Stk.	345	253	348½§	5⅛
	Bengal-Nagpur	3,267	10.3.42	263,175	— 127	50	9,354,150	8,504,657	+ 849,493	,,	101	95⅛	96	4⅛
	Madras & Southern Mahratta	2,939	Mar. 1942	253,125	+ 25,105	52	7,338,605	6,278,738	+ 1,059,867	,,	105 7/16	101½	99	7⅛
	Rohilkund & Kumaon	571	May, 1942	58,950	— 12,488	8	119,550	140,639	— 21,089	,,	342	290	352½	4⅛
	South Indian	2,402	31.3.42	190,120	+ 43,235	52	5,358,080	4,609,099	+ 748,981	,,	100	87	95	3⅛
Various	Beira	204	Apr.,1942	80,224	—	30	534,115	—	—	—	—	—	—	—
	Egyptian Delta	607	10.4.42	10,185	+ 3,568	2	10,185	6,617	+ 3,568	Prf. Sh.	1½	29/-	2½	Nil
	Manila	—	—	—	—	—	—	—	—	B. Deb.	68	45	35	10
	Midland of W. Australia	277	Apr., 1942	25,627	+ 9,494	37	203,111	150,333	+ 52,778	Inc. Deb.	90½	85½	89½§	6⅛
	Nigerian	1,900	28.2.42	97,375	+ 29,933	47	2,894,620	2,124,026	+ 770,594	—	—	—	—	—
	Rhodesia	2,442	Apr., 1942	503,217	—	30	3,382,397	—	—	—	—	—	—	—
	South Africa	13,291	2.5.42	789,828	+ 64,610	6	3,580,192	3,279,345	+ 300,847	—	—	—	—	—
	Victoria	4,774	Jan., 1942	1,301,285	+ 378,792	29	7,938,536	6,547,339	+ 80,660	—	—	—	—	—

Note. Yields are based on the approximate current prices and are within a fraction of ⅛ Argentine traffics are given in pesos
† Receipts are calculated @ 1s. 6d. to the rupee § ex dividend